THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

MOTOR CARRIERS AND THE STATE: A STUDY IN CONTEMPORARY PUBLIC UTILITY LEGISLATION

DAVID E. LILIENTHAL AND IRWIN S. ROSENBAUM

A STUDY OF UTILITY FINANCIAL STRUCTURES: CURRENT POSITION

A. E. PATTON AND O. GRESSENS

LAND VALUES AND POPULATION

ARTHUR J. MERTZKE

THE INDETERMINATE PERMIT AS A TYPE OF PUBLIC UTILITY FRANCHISE

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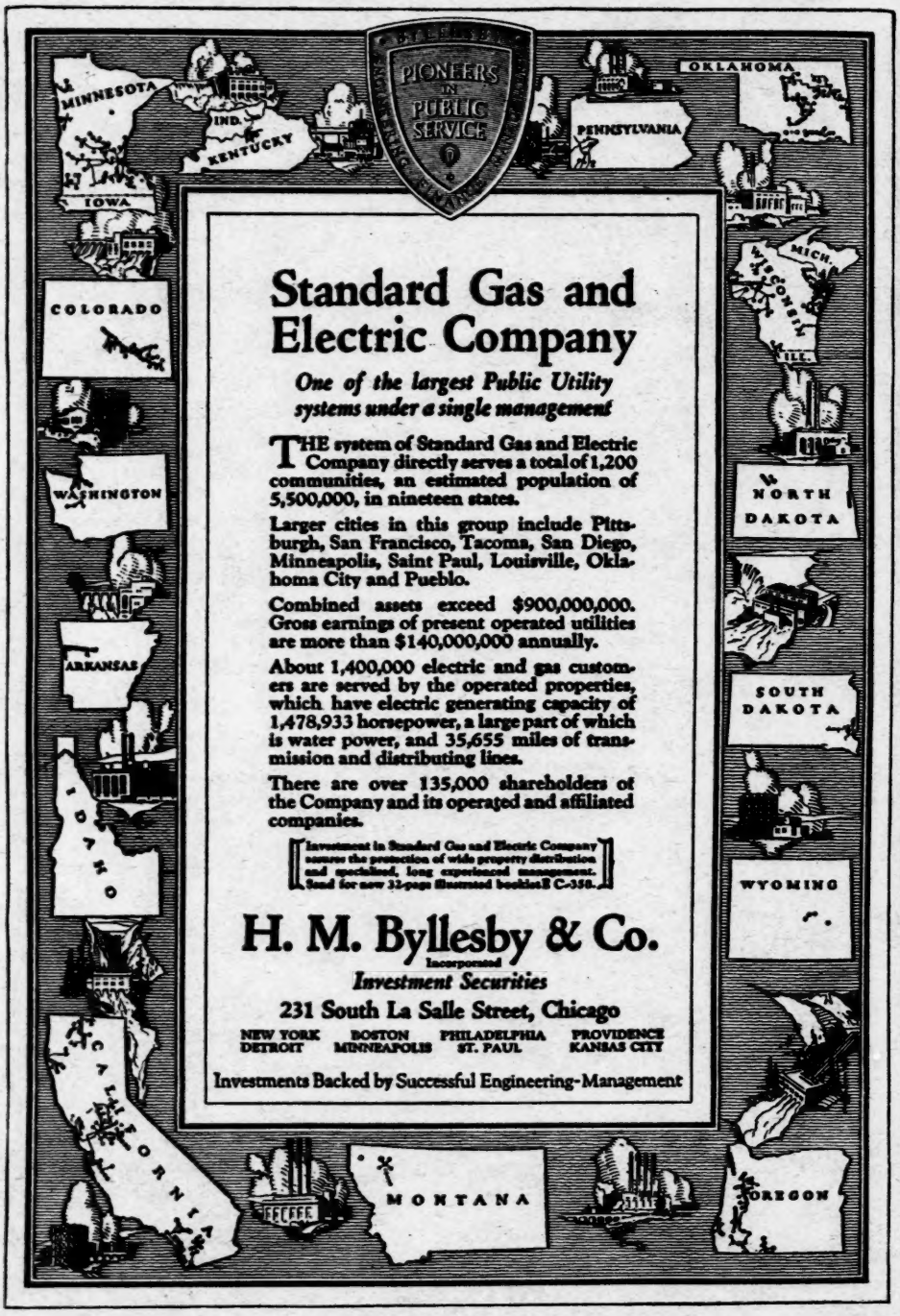
VOLUME II NUMBER 3 JULY 1926 PRICE $1.25 A COPY



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JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS – Entered as second-class matter January 5, 1925, at the post-office at Chicago Illinois, under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized September 17, 1925. Terms: $5 a year; single copies $1.25. Published quarterly for the Institute for Research in Land Economics and Public Utilities by A. W. Shaw Company, Cass, Huron and Erie Streets, Chicago, Illinois.

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Subscription Rates: $5 a year; $1.25 a copy. Remittances may be made by personal checks, drafts, post-office or express money orders, payable to A. W. Shaw Company, Chicago.

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Entered as second-class matter January 5, 1925, at the post-office at Chicago, Illinois, under the Act of Congress of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized October 12, 1922. Printed in the United States of America.

Editorial Correspondence: Letters regarding editorial matters should be addressed to the Editor, Commerce Building, Northwestern University, Evanston, Ill.

Business Communications: Letters concerning subscriptions or advertising should be addressed to A. W. Shaw Company, Chicago. Advertising rates furnished on application.

PUBLISHED QUARTERLY FOR THE INSTITUTE FOR RESEARCH IN LAND ECONOMICS AND PUBLIC UTILITIES, BY A. W. SHAW COMPANY, CASS, HURON AND ERIE STREETS, CHICAGO

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LAND & PUBLIC UTILITY ECONOMICS

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THE JOURNAL OF
LAND & PUBLIC UTILITY
ECONOMICS

JULY
1926

VOLUME II
NUMBER 3

MOTOR CARRIERS AND THE STATE

A STUDY IN CONTEMPORARY PUBLIC UTILITY LEGISLATION

By DAVID E. LILIENTHAL AND IRWIN S. ROSENBAUM

THE regulation of public callings by the state is almost as old as our system of law itself. The medieval Yearbooks are full of cases in which duties in the interest of the community were imposed upon the smith, the tailor, the baker, the miller, and the innkeeper, as well as upon the wharfinger, the ferryman, and the other carriers of persons and goods.[1] With the advent of an industrial society, the regulation of public business became the central problem of the state. Control through charter limitations or "through the occasional explosions of lawsuits" by injured patrons may have been adequate in the days of turnpikes, canals, and toll-bridges;[2] they became wholly unsuited to the problems which came with the railroad, electric communication, and an urban civilization. Since the days of the Granger Movement primary responsibility for the regulation of public utilities has been shifted from the courts to the legislatures. The first step, direct regulation by the Legislature itself, gave way to regulation by expert administrative commissions vested, first, with narrow powers of visitation, then with authority to revise, and finally with broad and flexible power to control the very details of

[1] See the following typical cases: Anon., Keilway, 50, pl. 4, and Y. B. 46 Ed. III, 19, pl. 19 (1372), (smith); Y. B. 22 Ed. IV, 49, pl. 15 (1492), (tailor); Y. B. 11 Hen. IV, 45, pl. 18 (1410), (innkeeper); Y. B. 22, Lib. Ass. 94, pl. 41, (ferryman); Y. B. 19 Hen. VI, 49, pl. 5 (1441), (surgeon); Y. B. 39 Hen. VI, 18, pl. 24 (1461), (victualer). For an interesting discussion of these very early cases, and many others there collected, see Edward Adler, "Business Jurisprudence," 28 *Harvard Law Review*, 135, and "Labor, Capital and Business at Common Law," by the same author, 29 *ibid*, 241.

[2] As to turnpikes, see the discussion in *Olcott* v. *Supervisors*, 16 Wall. (U. S.) 678, (1872); canals, *Spencer* v. *Daggett*, 2 Vt. 92 (1829); and toll-bridges, *The Binghamton Bridge*, 3 Wall. (U. S.) 51, (1865).

utility operations.[3] The transition from regulation solely through the courts to regulation through the Legislatures and their agencies is almost complete.

A generation or so ago the student of public utility regulation went first to the accretions of the common law, reaching back to the courts of feudal England; today he must turn first of all to the product, not of the courts but of the Legislatures. That is what we have done in seeking to determine the extent of the state's control over motor carriers—the newest form of an ancient public calling. The picture is wholly incomplete without the record of the commissions that administer the law and the courts that must draw the boundary lines for both commissions and Legislatures. But at the foundation of the whole structure of regulation are the statutes themselves, and these are our present concern.

I. The Methods of Regulation

The phenomenal rise of the motor carrier as a business of great public importance made governmental regulation imperative. As early as 1914 the Pennsylvania Public Service Commission assumed jurisdiction, under the act of its creation, over common carriers by motor.[4] Some measure of state control was also early exercised in such widely separated jurisdictions as New York, Colorado, Maryland, Utah, the District of Columbia, and Iowa. But it has been during the past five years, coinciding with the amazing and steady growth of this mode of transportation, that legislation regulating motor carriers has experienced real growth, and has taken on maturity and definiteness.[5] The early legislation—particularly in the "jitney" period of motor-carrier development—consisted largely of rules promulgated by the Legislatures, without provision for the intervention in their enforcement of an administrative tribunal. And of course this type of direct legislation is still to be found;[6] but the significant characteristic of the great stream of current legislation is the uniformity with which it vests broad and general powers of regulation over the new utility in the established administrative commission.[7]

Motor carriers have been brought

[3] The statute involved in the landmark case of *Munn* v. *Illinois*, 94 U. S. 113 (1876) was an instance of direct regulation of warehousemen by the Legislature. The early Massachusetts Commission is an illustration of the vesting of fact-finding powers only in such bodies. The legislative history of the Interstate Commerce Commission illustrates the expansion from a tribunal authorized to revise upon complaints only, to a body having power to initiate and supervise the smallest details of policy and operation.

[4] See Pa. St. 1920, sec. 18057, Act. of July 26, 1913. The Commission's assumption of jurisdiction was challenged and sustained in *Scranton Railway Company* v. *Walsh*, Complaint Docket, Pa. Pub. Service Comm. No. 441, March 15, 1916.

[5] During the past three years 24 states have brought motor carriers under state regulation by special enactments, or greatly changed their existing laws.

1923	1925	
California	Indiana	South Dakota
Maine	Iowa	Vermont
Michigan	Kansas	Wisconsin
Montana	Massachusetts	Wyoming
Ohio	Minnesota	
Oklahoma	Nevada	1926*
Rhode Island	North Carolina	Mississippi
Virginia	North Dakota	Kentucky
	Oregon	New Jersey

*As of June 1, 1926.

[6] There is a great volume of legislation regulating the weight, width, lights, speed, and so forth, of motor vehicles generally which apply, in most instances, to the types of vehicles hereunder discussion. These have been conveniently digested by the Motor Vehicle Conference Committee, as of January 1, 1926, in a pamphlet, *Governmental Restrictions on Motor Vehicle Sizes, Weights, and Speeds.*

[7] Arizona, L. 1919, ch. 130; Arkansas, G. A. 1921, No. 124, sec. 5; California, Deering's G. L.

under the jurisdiction of existing public utility commissions by three distinct methods. In some states the commissions have assumed jurisdiction to regulate these utilities by construing the provisions of the existing act to include the new form of transportation.[8] Where a commission had been granted power over "common carriers" or "public utilities" long before motor vehicles were regarded as having commercial possibilities, it was entirely in accord with Anglo-American legal technique to hold that the language in-

(Footnote 7 continued from page 258)

1923, Part I, Act 5129, p. 1904; Colorado, Comp. L. sec. 2914, ch. 29 ff.; Connecticut, P. A. 1921, ch. 77, p. 3088; ch. 340, p. 3367; District of Columbia, Act. of March 4, 1913, Public No. 435, 37 St. L. pt. 1, p. 974; Georgia, 2 Parks Ann. Code, sec. 2662, 2663; Illinois, 7 Callaghan's Stat. Ann. ch. 111 *a;* Indiana, L. 1925, ch. 46, sec. 2; Iowa, L. 1925, ch. 5; Kansas, L. 1925, ch. 206, sec. 2; Maine, L. 1921, ch. 184; L. 1921, ch. 211; Maryland, Bagby's Ann. Code, 1924, Art. 23, sec. 347; Massachusetts, Acts 1925, ch. 280, sec. 2; G. L. 159, sec. 45, 12; Michigan, P. A. 1923, No. 209, sec. 1; Minnesota, S. L. 1925, ch. 185, sec. 2 (*g*), sec. 4; Mississippi, Act of March 18, 1926, sec. 5; Montana, L. 1923, ch. 154, sec. 3; Nebraska, Comp. Stat., sec. 5466, 5483; New Hampshire, L. 1919, ch. 86, sec. 2; New Jersey, L. 1921, ch. 149; L. 1926, ch. 146; New York, Cahill's Consol. L. 1923, ch. 49, sec. 5 (1); *ibid* ch. 64, sec. 25; Nevada, L. 1925, ch. 161, sec. 1; North Carolina, P. L. 1925, ch. 50, sec. 4; North Dakota, L. 1925, ch. 91, sec. 4; Ohio, Page's Ann. Code 1926, sec. 614-3, 614-4; Oklahoma, L. 1923, ch. 113; Oregon, G. L. 1921 (Sp.) ch. 10, sec. 3; Pennsylvania, Pa. St. 1920, sec. 18057; Rhode Island, G. L. 1923, ch. 254; South Dakota, L. 1925, ch. 224; Tennessee, L. 1919, ch. 49, sec. 3; Utah, Comp. L. 1917, Tit. 91, sec. 4798; Vermont, P. A. 1923, No. 91, sec. 4; P. A. 1925, No. 86; P. A. 1925, No. 74, sec. 8; Virginia, A. 1923, ch. 161; L. 1924, ch. 222; Washington, L. 1921, ch. 111; Wisconsin, Stats. 1925, ch. 194; Wyoming, L. 1925, ch. 150.

In three of these states—Georgia, Nebraska, and Tennessee—jurisdiction over motor carriers has been vested by the general public utilities law in the established commission, but the commissions have declined to exercise their full authority, not deeming extensive regulation necessary at present. In five states the broad jurisdiction vested in the established utilities commissions has been placed in other bodies.

Alabama, L. 1919, sec. 361, p. 398 (State Tax Commission).

Idaho, L. 1925, ch. 197, sec. 4 (which withdraws broad jurisdiction from the established commission, and vests narrower powers in the Department of Law Enforcement).

Kentucky, Act of March 5, 1926, sec. 3 (Commissioner of Motor Transportation).

South Carolina, Laws 1925, No. 170 (State Highway Commission).

West Virginia, Barnes' Code 1923, ch. 43, sec. 82 (State Road Commission).

Only six states have no state legislation: Delaware, Florida, Louisiana, Missouri, New Mexico, and Texas.

The extent of commission control (excepting Delaware) over other public utilities than those under discussion here, is set out below:

Utility	Extent of Commission Control
Railroads (Steam and Interurban Electric)	All states
Express Companies...	All states
Street Railways.....	44 states (Kans., Ia., Ky., and Mich. not included)
Telegraph.....	43 states (Ia., Mich., Minn., Tex., S. C. not included)
Telephone.....	45 states (Ia., Tex., S. C. not included)
Electric.....	38 states (Fla., Ia., Kans., Ky., Mich., Minn., Miss., Neb., S. D., Tex. not included)
Gas.....	40 states (Fla., Ia., Ky., Minn., Miss., Neb., S. D., Tex. not included)
Water.....	34 states (Fla., Ga., Ia., Ky., Mich., Minn., Miss., Neb., N. Mex., N. Y., S. D., Tex., Vt., Va. not included)
Heating.....	19 states (including Ala., Cal., Ill., Ind., Kans., La., Md., Mo., Mont., Nev., N. J., N. Y., N. D., O., Pa., S. C., Utah, Wis., Wyo.)

See *Report of Committee on Uniform Regulatory Laws,* of National Association of Railroad and Utilities Commissioners, 1923, Part II, sec. 2.53.

[8] California: *Western Association of Short Line Railroads* v. *Railroad Commission,* (1916) 173 Cal. 802, 162 Pac. 391.

Arizona: *Re Automobile Traffic* (1915) P. U. R. 1915 C 945.

Re Automobile Traffic (1916) P. U. R. 1916 E 789.

District of Columbia: *Terminal Taxicab Co.* v. *Kutz,* 241 U. S. 252.

In re Jurisdiction of the Commission over Motor Bus Lines and similar common carriers, Order No. 160, P. U. R. 1915, E. 642.

Illinois: *Jacksonville R. Co.* v. *O'Donnell,* (1915) P. U. R. 1915 C 853.

State Public Utility Commission v. *Bartonville*

cluded common carriers by motor, and to subject them to regulation.[9] The usual method has been, however, for the Legislature to enact a special and separate act, directed expressly and exclusively to the particular problem of motor-carrier regulation. Such acts generally place motor carriers under the existing commission's jurisdiction usually by amending the statutory definition of "public utility" or "common carrier," at the same time imposing separate and additional obligations which the commission is authorized to administer.[10]

The problems of motor-carrier regulation facing the legislators of Arizona or Idaho, for example, are widely different from those arising in New Jersey, New York, or Massachusetts; both regions are presented with situations wholly different from those arising in Mississippi, in Illinois, or in the Carolinas. We might, therefore, expect such diversity of legislation as to make classification and analysis impossible. As a matter of fact, the various states have approached the problem with surprising uniformity. In 1923 the Motor Vehicle Committee of the National Association of Railroad and Utilities Commissioners prepared a Model Uniform Statute which, in their judgment, included the soundest principles of regulation.[11] We shall use this suggested Uniform Act as a guide in leading us through the dense overgrowth of legislation of the past few years.

II. The Classes of Carriers Included

Common or private carriers. The language of the Uniform Act is broad enough so that it might be construed to embrace not only common carriers but

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(Footnote 8 continued from page 259)

Bus Line, (1919) 290 Ill. 574, 125 N. E. 373.

Maryland: *Smith* v. *Maryland,* (1917) 130 Md. 482; *Re Regulation and Control of Automobiles,* etc., P. U. R. 1915, C 365; same, 925.

See *Chicago* v. *Mayer,* (1919) 290 Ill. 142.

Pennsylvania: *Allegheny Valley Street R. Co.* v. *Greco,* (1916) P. U. R. 1917 A 723.

Arkansas: *Petition of Arkansas Traveler Co.,* Case No. 507, Order of December 15, 1925, as amended.

Similar conclusions were reached by the Georgia Commission (*Georgia R. & P. Co.* v. *Jitney Bus Co. et al,* (1915) P. U. R. 1915 C 928) and that of Nebraska (*Re C. C. Bus Lines,* (1924) P. U. R. 1925 A 442) but neither commission has actually exercised any considerable control. See Resolution 86 and Supplements, Nebraska Railway Commission.

In Arizona, California, and Maryland separate statutes expressly conferring extensive powers over motor carriers upon the commissions have been enacted subsequent to the assumption of jurisdiction under the existing general jurisdictional clauses. California, Deering's G. L. 1923, Part I, Act 5129, p. 1904; Maryland, Bagby's Ann. Code, 1924, Art. 23, sec. 347; Arizona, L. 1919, ch. 130.

[9] The extension of the concept of "common carrier" from the day of primitive carriage to this newest form has been based upon a single set of principles, flexible to meet the changes of the times. In the eyes of the common law, the pack carriers and wagoners of early England, the porters and the hoymen, are the direct ancestors of the modern railroad and the motor truck. See I. Wyman, *Public Service Corporations,* chap. v (1911).

[10] Such is the case in Arizona, California, Connecticut, Indiana, Iowa, Kansas, Maryland, Maine, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New York, North Dakota, North Carolina, Ohio, Oklahoma, Oregon, South Dakota, Utah, Vermont, Virginia, Washington, Wisconsin and Wyoming. For citations to the statutes involved, see Footnote 7, *supra.*

[11] *Proceedings of the National Association of Railroad and Utilities Commissioners,* 1923 (35th Annual), p. 177. The members of the Committee were: Hon. E. V. Kuykendall, Chairman, of Washington; Hon. Fay Harding, of North Dakota; Hon. Grant E. Halderman, of Colorado; Hon. Ivan Bowen, of Minnesota; Hon. C. E. Rugh, of Kansas; Hon. William F. Rhea, of Virginia.

The draft itself is the work of Judge Kuykendall, then Director of Public Works of Washington.

"Sound and Equitable Principles for Intra-state Regulation" have also been formulated by the Motor Vehicle Conference Committee in a pamphlet, *Governmental Regulation of Motor-Vehicle Common Carriers.*

private carriers as well. The commissioners suggest that regulation should extend to every person or company "owning, controlling, operating, or managing any motor-propelled vehicle . . . used in the business of transporting persons and/or property for compensation over any public highway in this state . . ." Some of the Legislatures have used language equally broad and inclusive,[12] and some states have even gone so far as to extend the regulatory statutes, by express language, to private carriers for hire,[13] that is, carriers who do not offer their services indiscriminately to the general public, but operate under special contracts.[14]

But such efforts to extend regulation

[12] In the following states, regulation extends to all motor vehicles upon the highways operating "for hire" or "for compensation": Idaho, L. 1925, ch. 197, sec. 1; Maine, L. 1923, ch. 211, sec. 1; Massachusetts, L. 1925, ch. 280, sec. 1, adding, "as a business . . ."; North Carolina, L. 1925, ch. 50; North Dakota, L. 1925, ch. 91, sec. 1 (D); Oklahoma, L. 1923, ch. 113, sec. 1 (*b*); Washington, L. 1921, ch. 111, sec. 1 (*d*); sec. 2; West Virginia, Barnes' Code, 1925, ch. 43, sec. 82 (*h*); Wyoming, L. 1925, ch. 150. The phrase "in the *business* of transporting persons or property . . . *or* as a common carrier for compensation . . ." is used in California, Deering's G. L. 1923, Act 5129, sec. 1), Montana, S. L. 1923, ch. 154, sec. 1 (*c*), and Oregon, G. L. 1921, (Sp.) ch. 10, sec. 1 (*c*). A similar phrase is used in the new Kentucky statute, Act of March 5, 1926, sec. 1. Indiana and Ohio expressly exclude private carriers, Indiana, L. 1925, ch. 46, sec. 5; Ohio, Page's 1926 Code, secs. 614-2 and 614-84. The exclusion in Ohio has a history: See *Hissem* v. *Guran,* 112 O. S. 59.

[13] South Carolina, Acts 1925, No. 170, sec. 4; South Dakota, L. 1925, ch. 224, sec. 2 (*a*); Virginia, L. 1924, ch. 222, sec. 3. The statutory situation in Ohio is worthy of special note. Section 614-84 of the Code applies the Act to "common carriers for hire, under private contract or for the public in general" but not to "private contract carriers." Sec. 614-2 defines the latter as motor vehicles "under private contract but not as common carriers" to which carriers alone the Act as a whole applies. The same section defines "motor transportation companies" as motors operating "under private contract or for the public in general . . ." as common carriers. The Act of 1923 was construed in *Hissem* v. *Guran,* 112 O. S. 59 (1925), upon the authority of the Duke case, (Footnote 15, *infra*) to exclude private carriers. Hence the Act was amended in 1925 by inserting "under private contract" as a clause of exclusion.

[14] It is fundamental to the law of common carriage that no carrier is "common" who does not offer his services indiscriminately to the public at large, up to the limit of his capacity. Ordinarily, therefore, a truckman who hauls only for a single firm, under a contract covering that firm's business, and who will not take on the business of other organizations, is not a common carrier. But the existence of a special contract does not, of itself, make private a carrier otherwise public or "common." It is merely evidence that the carrier's services are not "held out" indiscriminately to the public at large. In the following cases where private contracts were entered into, it was held, nevertheless, that the transportation service was in its nature common carriage. *Re J. J. & Cora Gueguen, Re W. D. Clark & C. F. Deppman,* Wash. Dept. P. W., Order No. 1474, (1925) P. U. R. 1925 D 531; *Wayne Transportation Co.* v. *Leopold; same* v. *Rollinson,* (1923 Pa. P. S. Comm.) P. U. R. 1924 C 382; *State ex rel Savage* v. *Dean,* (Wash. 1924) 225 Pac. 656; *Public Service Comm.* v. *Fox,* 160 N. Y. S. 59; *York Railways Co.* v. *Longstreet,* (Pa. P. S. C. 1924) P. U. R. 1924 D 750, where the Commission said, p. 752, "The important thing, however, is not what the respondent says the service is, or what it may appear to be, or what it is reputed to be; the test is what is actually done." And compare, *Re William H. Jones,* (Pa. P. S. Comm.) P. U. R. 1924 A 540 (hiring under contract to funeral director, not common carriage); *Re George Eggleston,* (Ill. C. C. 1924) P. U. R. 1924 C 350 (intermittent service to resort, passengers and resort owner each paying part, not common carriage).

See the interesting comment of Commissioner Samuel D. Pepper of Michigan, following the Duke case: "The Michigan Commission is confronted with the problem that constantly arises as to when a motor carrier is a contract carrier and when it is a common carrier. We find in some cases that a carrier will solicit business throughout a territory, offering to contract with each individual customer, and when he has obtained customers up to his capacity, whether it be 5 or 25, he will then cease soliciting and settle down to the contracts he has been able to obtain. Thereafter he calls himself a contract carrier—when he loses a customer or two he goes out and solicits more business. I assume, however, . . . that the commission might well be justified in holding certain alleged contract carriers to be common carriers, notwithstanding the subterfuges that are often employed." 50, *Reports of Amer. Bar. Assn.* at 886 (1925). See also the statement of J. F. Atwater, Transportation Manager of the American Hardware Corporation: "I cannot distinguish

over private, as well as public, carriers seem aborted by a recent decision of the United States Supreme Court. The Michigan statute, like the Uniform Statute, imposed regulation upon all transportation by motor vehicles "for hire;" the state commission had construed this as a grant of power over all carriers receiving compensation for their service, whether technically "common carriers" or not. But in *Michigan Public Utilities Commission* v. *Duke*,[15] decided January 12, 1925, the court held that "it is beyond the power of the state by legislative fiat to convert property used exclusively in the business of a private carrier into a public utility, or to make the owner a public carrier, for that would be taking private property for public use without just compensation, which no state can do consistently with the due process of law clause of the 14th Amendment." An injunction prohibiting the enforcement of the statute against the complainant was accordingly upheld.

This decision has presented many commissions with a difficult regulatory problem, for if the many carriers operating under private contracts are free from regulation, it is obvious that regulation of public carriers will be made doubly difficult, and their economic situation rendered more precarious. Consequently it is not surprising to find the California Commission, for example, insisting on regulating such private contract carriers, not only before but since the Duke decision. The California Supreme Court, sensing the danger to the entire regulatory scheme, upheld the regulation, writing a long opinion in which the conclusion is reached that the Duke case applied only to private motor carriers entering into contracts before the advent of regulation.[16] It is difficult to find any support for such a distinction in the Supreme Court's opinion.

Exemptions. It is common to find the Legislature expressly exempting certain kinds of transportation for hire from the operation of the act. The exempted carriers include taxicabs,[17] school and church busses,[18] sightseeing

(Footnote 14 continued from page 261)

a private carrier from a common carrier. Every truckman that I know of holds himself out for hire. . . I do not believe that there are 5% of the truckmen that do business under contract with one person or one firm." Hearings on S. 1734, Senate Interstate Commerce Committee, 69th Congress, 1st Sess., Part 2, p. 208, March 27, 1926.

[15] 266 U. S. 577 (1925).

[16] *Frost* v. *Railroad Commission*, 240 Pac. 26 (Cal. 1925); *Holmes* v. *Railroad Commission*, 242 Pac. 486 (Cal. 1926).

[17] Calif., Deering's G. L. 1923, Act 5129, sec. 1; Kentucky, Act of March 5, 1926, sec. 27*a*; Minnesota, L. 1925, ch. 185, sec. 2 (*f*); Mississippi, Act of March 18, 1926, sec. 3 (*f*), (*h*); Nevada, L. 1925, ch. 161, sec. 1; New Jersey, L. 1926, ch. 144, sec. 2, ch. 146, sec. 2; North Dakota, L. 1925, ch. 91, sec. 1 (*D*); Ohio Code, sec. 614-84 (*a*); Oregon, G. L. 1921 (Sp.) ch. 10, sec. 1 (*c*); Virginia, L. 1924, ch. 222, sec. 9; Wyoming, L. 1925, ch. 150.

Some states expressly include taxicabs. Maryland, Acts 1920, ch. 677; West Virginia, Barnes' Code 1925, ch. 43, sec. 82. In those states regulating irregular operators, taxicabs would be subjected to regulation, unless the state commission has no authority over carriers exclusively within cities. New Jersey has just enacted a special taxicab act, L. 1926, ch. 249.

For a discussion of this type of common carrier, see Schnader, "The Taxicab—Its Service and Regulation," 116 *The Annals* 101 (1924).

[18] Ida., L. 1925, ch. 197, sec. 1; Ia., L. 1925, ch. 5, sec. 1 (*a*); Kansas, L. 1925, ch. 206, sec. 1 (*d*); Minn., L. 1925, ch. 185, sec. 2 (*f*); Mississippi, Act March 18, 1926, sec. 3; N. Jersey, L. 1926, ch. 144, sec. 2, ch. 146, sec. 2; N. Carolina, L. 1925, ch. 50, sec. 2; N. Dakota, L. 1925, ch. 91, sec. 1 (*D*); Ohio Code, sec. 614-84*a*; S. Carolina, Acts 1925, No. 170, sec. 2; S. Dakota, L. 1925, ch. 224, sec. 1 (*i*); Virginia, L. 1924, ch. 222, sec. 2.

It estimated that 500,000 students daily use motor carriers in regular school service. See Covert, 5, *Bus Transportation*, 175. (April, 1926.)

busses,[19] and the transportation of agricultural products.[20]

Passenger or freight carriers. The Uniform Act applies to the carriage of both passengers and freight for hire; and this is the law in most of the states. But there are a number of important motor-carrier centers, as New York, New Jersey, and Massachusetts, in which regulation is restricted to passenger carriers.[21]

Regular or irregular carriers. There is nothing in the concept of a "common carrier," either as a doctrine of constitutional law or common law, which would make relevant the fact that carriage is over a regular route, or between fixed termini. But in the actual administration of the regulatory statutes, it has been found difficult to subject operators without definite routes or termini, such as taxicab operators or general freight transfer companies, to the same detailed regulation which can readily be applied to established lines. Accordingly, many statutes expressly limit the field of regulation to motor carriers operating thus regularly.[22] But it would seem that without power in the commission to control the operations of the irregular carriers, the regulated carriers may be subjected to such competition as will lead to high company mortality, a strong temptation upon regulated carriers to evade control, highway congestion on the better routes—in brief, the defeat of the entire scheme of regulation.[23] Recognizing the difficulties, on

[19] Calif., Deering's G. L. 1923, Act 5129, sec. 1; Kentucky, Act of March 5, 1926, sec. 27*a*; N. Carolina, L. 1925, ch. 50, sec. 2; Ohio, Code sec. 614-84*a*; S. Carolina, Acts 1925, No. 170, sec. 2; Virginia, Laws 1924, ch. 222, sec. 2.

Hotel busses, in a few states, are excluded. Minn., L. 1925, ch. 185, sec. 2 (*f*); Nevada, L. 1925, ch. 161, sec. 1; N. Jersey, L. 1926, ch. 144, sec. 2; Ohio, Code, sec. 614-84*a*; N. Dakota, L. 1925, ch. 91, sec. 1 (*D*).

As of January 1, 1926, there were 2,520 busses operating, in these two classifications, 5 *Bus Transportation*, 71 (Feb., 1926).

[20] Calif., Deering's G. L. 1923, Act 5129, sec. 5; Kans., L. 1925, ch. 206, sec. 1 (*d*); Minn., L. 1925, ch. 185, sec. 2 (*f*); Montana, S. L. 1923, ch. 154, sec. 1 (*e*); Mississippi, Act March 18, 1926, sec. 3; N. Carolina, L. 1925, ch. 50, sec. 2; N. Dakota, L. 1925, ch. 91, sec. 1 (*D*); Oregon, G. L. 1921, (Sp.) ch. 10, sec. 1 (*e*); S. Carolina, Acts 1925, No. 170, sec. 2; S. Dakota, L. 1925, ch. 224, sec. 1 (*i*); Virginia, L. 1924, ch. 222, sec. 2. In Montana and Oregon it is provided that the commission may exempt "the transportation of freight or passengers by motor vehicle in rural communities when not done on a commercial basis."

For the reasons for this exemption, see the statements of Director of Public Works Kuykendall of Washington, *Proceedings of the National Association of Railroad and Utilities Commissioners*, 1923, p. 183, and 166.

[21] Alabama, L. 1919, sec. 361, schedule 8; Conn., P. A. 1921, ch. 77; Kentucky, Act of Mar. 5, 1926, sec. 1; Maine, L. 1923, ch. 211, sec. 1; Massachusetts, Acts 1925, ch. 280; Nebraska, see Order in Resolution 86, *In the Matter of the Investigation of Common Carrier Bus Lines*, Sept. 20, 1924; New Hampshire, L. 1919, ch. 86; New Jersey, L. 1926, ch. 146; New York, Cahill's Consol. Stats., 1923, sec. 64-25, 26, as construed by the Commission *in re George W. Graves*, Case No. 7562, Second District, decided June 15, 1920; Rhode Island, G. L. 1923, ch. 254.

[22] California, Deering's G. L. 1923, Act 5129, sec. 1 (*c*); Colorado, 3 Courtright's Mill's Ann. Stat. 1924, sec. 5933*r*; Connecticut, L. 1921, ch. 77, sec. 1; Iowa, L. 1925, ch. 5, sec. 1 (*a*); Kentucky, Act of March 5, 1926, sec. 3, sec. 21, 21*a*; Maine, L. 1923, ch. 211, sec. 1; Maryland, Bagby's Code 1924, Art. 56, sec. 255, 262, *semble;* Massachusetts, Acts 1925, ch. 280, sec. 1; Michigan, P. A. 1923, No. 209, sec. 1; Minnesota, S. L. 1925, ch. 185, sec. 1 and 2; Mississippi, Act of March 18, 1926, sec. 3 (*h*), sec. 5 (distinction in degree of regulation only); Montana, S. L. 1923, ch. 154, sec. 1 (*c*); New Jersey, L. 1926, ch. 144, sec. 2; Oklahoma, L. 1923, ch. 113, sec. 1 (*b*); Vermont, P. A. 1925, No. 74, sec. 1; Washington, L. 1921, ch. 111, sec. 1 (*d*); West Virginia, Barnes' Code 1925, ch. 43, sec. 82, *semble;* Wisconsin, Stats. 1925, sec. 194.01, *quære.*

[23] "The original auto transportation acts in several states undertook the regulation of companies operating between fixed termini or over a regular route only. Practical experience has disclosed that freight trucks and for-hire passenger cars, maintaining stands in the various cities and towns, are

the one hand, of detailed regulation of irregular carriers, and the dangers, on the other, of exempting them, the experienced commissioners who drafted the Uniform Act have included both types under regulation, but have applied to each a different and appropriate kind of control.[24] This plan, in one form or another, is used in some of the states[25] and was adopted likewise by the conference of experts which drafted the proposed Federal law.[26]

State regulation of interstate carriage. The great bulk of motor-vehicle business is confined to transportation within a single state. The accompanying table, showing common-carrier operation divided between inter- and intra-state traffic, demonstrates this quite clearly.[27] How far the states could go in regulating interstate motor carriers doing business within their boundaries was for years a mooted question. The Legislatures naturally enough sought to extend state control as far as possible without violation of the Federal Constitution, which forbids the states placing undue burdens upon interstate commerce. They therefore worded the statutes, in

(Footnote 23 continued from page 263)

operating over the routes covered by the certificates of convenience and necessity issued to the auto transportation companies and are keenly competitive therewith. The major portion of the service performed by these concerns consists of freight transfer business and passenger taxicab operations in the various towns and cities; but, when opportunity presents itself, these companies transport persons and property between towns, cities, and localities over routes covered by certificates of convenience and necessity. These independent operators do not come within the purview of most of the regulatory acts. . . . They escape all regulation. . . They frequently engage in cutthroat competition with each other and with certificate holders to their own detriment and to the injury of regular certified operators and ultimately to the detriment of public service."*

**Report of Committee on Motor Vehicle Transportation, of National Association of Railroad and Utilities Commissioners, Proceedings, 1923, pp. 164-165.*

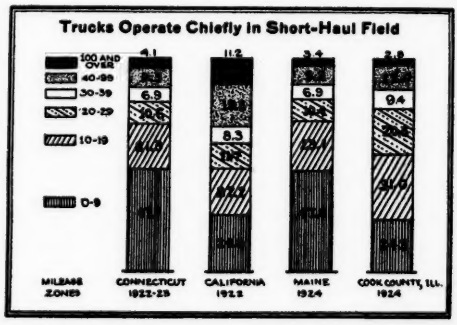
[24] See *infra*, p. 269.

[25] S. Carolina, Acts 1925, No. 170, sec. 2 and 4 (five classes); S. Dakota, L. 1925, ch. 224, sec. 10 (four classes); Virginia, L. 1924, ch. 222, sec. 3, sec. 5 (2) (four classes).

[26] S. 1734, A bill to regulate interstate commerce by motor vehicles operating as common carriers on the public highways, sec. 2; 69th Congress, 1st Session.

[27] No reliable figures on the extent of regular interstate freight traffic by common carrier exists. The Bureau of Public Roads, United States Department of Agriculture, has assembled statistics upon inter- and intra-state tonnage in a few states. See the statement of J. G. McKay, Chief of the Division of Highway Economics of the Bureau, in the hearings on S. 1734, pp. 300 ff., and opposite charts taken from *Facts and Figures in the Automobile Industry*, pp. 39, 45.

See also the results of the interesting field surveys made by the Bureau of Public Roads, included in the statements of Thomas H. MacDonald, Chief of the Bureau, and Henry R. Trumbower, Economist for the Bureau, in the same Hearings, pp. 265 ff. and pp. 285 ff. The conclusions are



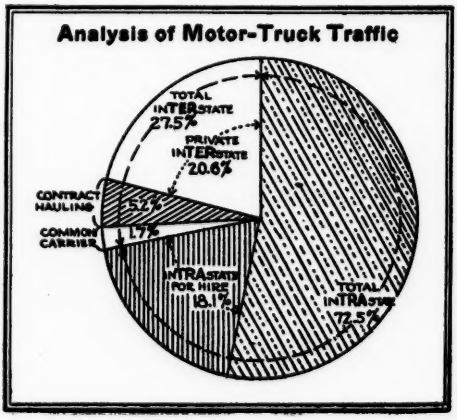


TABLE I. INTRA- AND INTER-STATE COMMON CARRIER PASSENGER OPERATION AS OF JANUARY 1, 1926*

District	Intrastate	Interstate
New England		
No. Companies	427	45
No. Vehicles	1,305	159
Mileage	8,573	2,971
North of Ohio and East of Mississippi		
No. Companies	2,406	78
No. Vehicles	10,193	292
Mileage	47,207	3,564
Southeastern States		
No. Companies	1,294	16
No. Vehicles	3,864	108
Mileage	43,829	1,413
Northwestern States		
No. Companies	523	20
No. Vehicles	1,620	31
Mileage	31,560	273
Southwestern States		
No. Companies	663	20
No. Vehicles	2,134	31
Mileage	43,008	273
Pacific Coast States		
No. Companies	680	8
No. Vehicles	2,908	36
Mileage	31,034	2,098
Totals		
No. Companies	5,993	181
No. Vehicles	22,024	659
Mileage	205,211	13,390

*Adapted from tabulations in 5, *Bus Transportation*, 70 (February, 1926) by Edward F. Loomis. The figures do not include busses operated by electric and steam railroads, which have not been separated between intra- and inter-state operation. A total of 281 such companies are operating 5,462 motor carriers over 16,766.6 miles.

many cases, so that interstate commerce was not specifically excluded, but placed the burden of deciding the question upon the courts. Such a formula was also adopted by the commissioners in drafting the Uniform Act. Many of the commissions, uniformly supported by the state courts, facing what they felt would be chaos if interstate carriers were free of the regulation to which their intrastate fellows were subjected, and seeking to protect their highways, assumed the same jurisdiction over interstate carriers as exercised over intrastate carriers.[28] But when the Federal Supreme Court had presented to it the problem of certificates of convenience and indemnity bond requirements it completely reversed the theory and conclusion of the state decisions. It held that for a state commission to deny a certificate to an interstate carrier, or require it to furnish indemnity bonds, imposed a burden upon interstate commerce inconsistent with the national Constitution.[29]

A wide field of regulation of interstate carriers is still open to the states. The exaction of license fees for the use

(Footnote 27 continued from page 264)

sufficiently compact to reproduce here:

"1. For distances over 60 miles, motor-truck tonnage is a small part of total tonnage, and commercial tariff hauling in motor trucks becomes almost insignificant when compared with total tonnage.

* * *

"4. The relative insignificance of motor-truck freight for distances of over 50 to 60 miles indicates that in general such transportation will be intrastate rather than interstate except in regions near state lines." p. 284.

[28] *Re Arizona Pacific Transit Co.*, Ariz. Corp. Comm., P. U. R. 1924 C, 501; *East St. Louis, etc., Co.* v. *Dingerson*, Ill. Commerce Comm., P. U. R. 1924 C 127; *Interstate Motor Transit Co.* v. *Kuykendall*, 284 Fed. 882 (1922); *Buck* v. *Kuykendall*, 295 Fed. 197, (U. S. Dist. Wash. 1924); *Re Barnes*, Wash. Dept. Pub. Works, P. U. R. 1923 E 719; *Bartels* v. *Hessler Bros., et al.*, Ill. Commerce Comm., P. U. R. 1922 D 193; *Chambersburg, etc., R. Co.* v. *Hardman*, Pa. Pub. Ser. Comm., P. U. R. 1921 C. 628; *Interstate Transit Co.* v. *Derr*, 71 Mont. 222 (1924); *In re Engelke*, N. Y. Pub. Ser. Comm., P. U. R. 1922 C 71; *Northern Pacific Ry. Co.* v. *Schoenfeldt*, 123 Wash. 579 (1923); *Schmidt* v. *Department of Public Works*, 123 Wash. 705 (1923); *People* v. *Barbuas*, 230 Ill. App. 560 (1923); *Bush & Sons* v. *Maloy*, 123 Atl. 61 (Md. 1924); *Northern Pacific Ry.* v. *Schoenfeldt*, 213 Pac. 26 (Wash.); *Gizzarelli* v. *Presbey*, 117 Atl. 359 (R. I.); *Camas Stage Co.* v. *Koxer*, 219 Pac. 95 (Ore.); *Liberty Highway Co.* v. *Michigan Public Utilities Commission*, 294 Fed. 703 (U. S. D. Mich., E. D.).

[29] *Buck* v. *Kuykendall*, 267 U. S. 307 (1925); *Bush* v. *Maloy*, 267 U. S. 317 (1925).

See also: *Michigan Public Utilities Comm.* v. *Duke*, 266 U. S. 570 (1925); *Newport Electric Corp.* v. *Oakley*, 129 Atl. 613 (R. I. 1925); *Red Ball Transit Co.* v. *Marshall*, 8 Fed. (2d) 635, 639

of the highways, requiring the registration and licensing of drivers, regulating speed, routes, number of passengers carried, the character of the equipment and service, and similar phases of interstate traffic, are still proper,[30] since these regulations are considered within the police power of the state, and are not "undue" or "direct" burdens upon interstate commerce.[31]

Following the Supreme Court decision, many motor companies extended their termini across state lines—in some cases only a few miles—and thus relieved themselves of state regulation, with resulting confusion and injury to the regulation of intrastate carriage.[32] A movement for a Federal statute to bring interstate carriers under regulation was immediately set on foot, a national association of bus operators favoring regulation was formed soon after and a legislative proposal drafted and introduced into Congress.[33] The outstanding legislative problem in this field at the present time, and one over which a fierce controversy rages, is the proper extent and machinery of such Federal regulation.[34]

State-wide versus local regulation. The statutes show the greatest diversity in the apportionment of regulatory power over that portion of motor opera-

(Footnote 29 continued from page 265)

(1925); *People* v. *Yahne*, 235 Pac. 50 (1925 Cal.); *Cannon Ball Transportation Co.* v. *Public Utilities Comm.*, 149 N. E. 713, 715 (Oh. S. 1925).

[30] *Buck* v. *Kuykendall*, 267 U. S. 307 at 315 (1925); *Hendrick* v. *State of Maryland*, 235 U. S. 610 (1915); *Kane* v. *State of New Jersey*, 242 U. S. 160 (1916); *Newport Electric Corp.* v. *Oakley, supra.* See also 39 *Harvard Law Review*, 900.

[31] See *Barrows* v. *Farnum's Stage Lines*, 150 N. E. 206 (Mass. 1926); *Red Ball Transit Co.* v. *Marshall et al, supra; Liberty Highway Co.* v. *Michigan Public Utilities Comm. et al.*, 294 Fed. 703, at 708 (Mich. 1923); *Hendrick* v. *Maryland, supra; Newport Electric Corp.* v. *Oakley, supra; Cannon Ball Transportation Co.* v. *Public Utilities Commission, supra; Re Brewster-Danbury Motor Bus, Inc.*, N. Y. Pub. Ser. Comm., P. U. R. 1925 D 307; *Re E. H. Scott Transportation Co.*, Pa. Pub. Serv. Comm., P. U. R. 1925 D 529.

For a collection of strictly analagous cases, see Frankfurter & Landis, "The Compact Clause of the Constitution—A Study in Interstate Adjustments," 34 *Yale Law Journal*, 685, 723, note 142; and on the power of the states to regulate interstate business through taxation, see the standard discussion by Professor Powell, "Indirect Encroachments on Federal Authority by the Taxing Powers of the States," 31 *Harvard Law Review*, 321, 572, 721, 932, and 32 *ibid* 234, 374, 634, 902.

[32] See the open letter of Chester G. Moore, a prominent Illinois operator, in 5, *Bus Transportation*, 31 (1926) and comment on the Rhode Island situation resulting from the recent decisions in *ibid*, at p. 52 (1926).

[33] The bill, known as S. 1734, was drafted by a special committee of the National Association of Railroad and Utilities Commissioners, headed by John E. Benton, its General Solicitor, and modified in conferences with the interests represented by the National Automobile Chamber of Commerce, the Bus Division of the American Automobile Association, the American Electric Railway Association, the Association of Railway Executives, and the American Short Line Railroad Association.

[34] Representatives of the trucking interests seem unanimously opposed to the type of control proposed by S. 1734, and apparently, to any and all regulation. See 36, *Power Wagon*, Nos. 254, 255, 256 (Jan., Feb., and March, 1926) and Hearings on S. 1734, 69th Congress, 1st Session.

An interesting repercussion of the Supreme Court decisions and the resultant controversy (which is now filling the trade journals of the bus and truck industry) is to be found in a recent enactment of the California Legislature. The California motor-carrier statute, before the Buck case, excluded interstate commerce "except in so far as the same may be permitted under the provisions of the Constitution of the United States and the Acts of Congress"—the usual formula. But after the Buck case the Legislature added the following proviso: "Provided, however, that with reference to transportation companies operating solely in interstate commerce between any point or points within this state and any point or points in any other state or in any foreign nation, the Railroad Commission shall have the power to prescribe such reasonable, uniform and non-discriminatory rules and regulations in the interest and aid of public welfare, security, safety, convenience and general welfare, as shall in its opinion be required by public convenience and necessity." (Stat. 1925, ch. 254, p. 433.)

tion conducted within municipalities. Such division of authority in this specific situation depends first of all upon the measure of local control which the particular state Legislature or state constitution has vested in local governments. Generally speaking, "the control of the highways is, in the first instance, lodged in the Legislature of the state," [35] but this power is usually delegated, in whole or in part, to the local governing bodies. [36] The Legislature, of course, can always change the extent of local control thus delegated, unless the state constitution contains a "home-rule" limitation, reserving to localities power over their own highways, beyond state interference.

These principles of general municipal corporation law form the background upon which the motor-carrier statutes are projected. Where the state constitution gives full authority to the municipalities, state regulation of motor carriers halts at the limits of the city, or affects only intercity operation. [37] Many states, even without such constitutional limitations, have denied the state commissions authority to regulate wholly within municipalities. [38] And since in such states the Legislatures had previously in general statutes delegated broad powers to municipalities over their streets, the result of this limitation upon state regulation has been to permit extensive city control, even over such matters as rates and equipment, as well as over speed, safety, routing, and other traffic regulations. Another familiar form of statute grants state-wide authority to the commission, but requires motor carriers, as a prerequisite of operation within cities, to obtain the consent of local authorities. [39] In New York state two commissions divide control: the Transit Commission governs motor carriers in or near New York City, the Public Service Commission regulates intercity operation in the remainder of the state, although each locality has large powers over the use of its own streets. [40]

[35] Huddy, *Automobiles,* 7th ed. 1924, p. 554.

[36] See, for examples, Tennessee, Shannon's Code, 1918, sec. 3076 *a*-8 ff; Iowa, 1924 Code, ch. 306, sec. 5926-37.

For extended discussions of Municipal regulation of motor vehicles, see Babitt, *The Law as Applied to Motor Vehicles,* (3 ed.), 1923, chaps. xiv, xv; Huddy, *Law of Automobiles,* (7th ed.) 1924, chap. ix, sec. 146 to 151 (for hire motors); Berry, *Automobiles,* 4th ed. 1924, chaps. iv, vi.

[37] See, for examples, *Village of Perrysburg* v. *Ridgway,* 108 O. S. 245 (1923); *Murphy* v. *City of Toledo,* 108 O. S. 343 (1923). But cf. *Lorain Street R. Co.* v. *Public Utilities Comm.,* 148 N. E. 577 (Oh. 1925).

[38] Ark., G. A. 1921, No. 124, sec. 8; Cal., Deerings' G. L. 1923, Act 5129, sec. 5, but cf. sec. 4, p. 1905; Idaho, L. 1925, ch. 197; Illinois, 7 Callaghan's Stat. Ann., ch. 111*a*, Art. VI, sec. 100, (if cities accept jurisdiction by referendum); Indiana, L. 1925 ch. 46, sec. 5, subject to conditions; Kansas, L. 1925, ch. 206, sec. 1 (*d*); Ky. Act of March 5, 1926, sec. 27*a*, as to streets not maintained in whole or part by other than local funds; Massachusetts, G. L. 1925, ch. 159, sec. 47, with appeal to state authority; Michigan, P. A. 1923, No. 209, sec. 1, sec. 8; Mont. L. 1923, ch. 154, sec. 1 (*c*), sec. 3; Nevada, L. 1925, ch. 161, sec. 1; New Jersey, L. 1926, ch. 144, sec. 2, but cf. L. 1911, ch. 195, sec. 24; New York, see *infra,* Footnote 40; N. Carolina, P. L. 1925, ch. 50; N. Dakota, L. 1925, ch. 91, sec. 1 (*D*); Ohio, Page's 1926 Code, sec. 614-84, and including territory contiguous to municipality; Oklahoma, L. 1923, ch. 113, sec. 2; Oregon, G. L. 1921 (Sp.) sec. 1 (*c*); S. Dakota, L. 1925, ch. 224, sec. 1 (*i*); Virginia, L. 1924, ch. 222, sec. 9, see also, G. L. 1923, sec. 3712; Washington, L. 1923, ch. 79, sec. 1 (*d*); See Mississippi, Act March 18, 1926, sec. 3 (*b*), (*h*), and sec. 18.

[39] See: Massachusetts, Acts 1925, ch. 280, but cf. G. L. ch. 159, sec. 47; New Jersey, L. 1926, ch. 144, sec. 2, but cf. L. 1911, ch. 195, sec. 24, and L. 1926, ch. 44, sec. 3, and ch. 146, sec. 2; Utah, Comp. St. 1917, sec. 4818; Washington, Remington's Comp. St. 1923, sec. 6382 as to first-class cities; W. Virginia, Barnes' Code 1925, ch. 43; Wisconsin, Stat. 1925, sec. 194.07.

[40] See Cahill's *Consolidated Laws,* 1923, chaps. 64-25; 49-5 (1); 64-26, and chap. 27, sec. 288.

III. Authorization of Operation: Certificates of Convenience and Necessity

Certificates and permits. We have noted the fact that the draftsmen of the Uniform Act have recommended the regulation not only of carriers over regular routes or between fixed termini, beyond which most states do not go, but irregular operators as well. But the commissioners provided a different mode of regulation for each class. Certificates, the issuance of which the commission has discretion to grant or deny, depending upon public convenience and necessity, are a prerequisite of operation over regular routes and between fixed termini. Irregular operators, however, are granted a permit, [41] as a matter of *right,* regardless of public needs, if they fall within the general legislative classification. Regulation in the public interest is effected by reserving to the commission the power to revoke such permits for violation of its rules and regulations.

Generally speaking, however, this distinction between the use of certificates and permits has not found great favor among the Legislatures. The well-nigh universal requirement is simply that all motor carriers subject to regulation secure a certificate, and the commission is empowered to issue such certificates only if the public necessity and convenience require. [42]

Considerations for the commission in the issuance of certificates. In directing the commissions to allow motor carriers to operate only when the "public necessity and convenience require" the Legislatures probably did not have primarily in mind the protection of the public from the overcrowding of streets and highways, and other similar physical effects. [43] The statement of Mr. Jus-

[41] This permit is in the nature of a license. It creates no property right or contract between the state and the holder as to the terms of operation; it may be revoked at will, and without a hearing. See *Burgess* v. *Brockton,* 235 Mass. 95 (1920); *Foshee* v. *State,* 72 So. 685 (Ala. A. 1916); *Chicago* v. *Gall,* 195 Ill. A. 41 (1915); *La Plante* v. *State Board,* 131 Atl. 641 (R. I. 1926).

A certificate of convenience, on the other hand, is in the nature of a limited franchise, and is a property right which is protected from interference at the hands of third persons. *Public Utilities Commission* v. *Garviloch,* 181 Pac. 272 (Ut. 1919). But the property right conferred is of a limited sort, since it may be revoked by the state for good cause. *Scheible et al* v. *Hogan,* 148 N. E. 581 (Oh. S. 1925).

[42] Arizona, L. 1919, ch. 130; California, Deering's G. L. 1923, Act 5129; Colorado, Comp. L. 1921, sec. 2914; Conn., P. A. 1921, ch. 77, sec. 3; Illinois, 7 Callaghan's Stat. Ann., ch. 111*a*, sec. 71; Indiana, L. 1925, ch. 46, sec. 2; Iowa, A. 1925, ch. 5, sec. 4; Kansas, L. 1925, ch. 206, sec. 5; Kentucky, Act of March 5, 1926, sec. 3; Maine, L. 1921, ch. 184; L. 1925, ch. 211; Maryland, Bagby's Ann. Code, Art. 56, sec. 255, 262; Mass., Acts 1925, ch. 280; Michigan, P. A. 1923, No. 209; Minn., S. L. 1925, ch. 185, sec. 5 (*a*); Mississippi, Act March 18, 1926, sec. 1, sec. 6; Montana, L. 1923, ch. 154, sec. 4; Nevada, L. 1925, ch. 161; sec. 3; New Hampshire, L. 1919, ch. 86, sec. 2; New York, Cahill's Consol. Stat. 1923, ch. 64-25; N. Carolina, L. 1925, ch. 50, sec. 3; N. Dakota, L. 1925, ch. 91, sec. 5; Pa., Stat. 1920, sec. 18150; sec. 18088; Ohio, Page's Code 1926, sec. 614-87, 614-88; Okla., L. 1923, ch. 113, sec. 4; Rhode Island, G.L. 1923, sec. 3724; S. Dakota, L. 1925, ch. 224; S. Carolina, Acts 1925, No. 170; Utah, Comp. Stat. 1917, sec. 4818; Vermont, P.A. 1925, No. 74, sec. 2; Virginia, L. 1924, ch. 222; Washington, L. 1921, ch. 111, sec. 4; W. Va., Barnes' Code, 1925, ch. 43, sec. 82; Wisconsin, Stat. 1925, sec. 194.02. Although the statute under which the Arkansas Commission has recently assumed jurisdiction does not authorize this requirement, the Commission demands such a certificate as a prerequisite of operation, presumably under its general authority to promulgate rules for operation. Wyoming's Commission also makes this requirement, relying upon L. 1915, ch. 146, sec. 45, although this section does not seem to sustain the jurisdiction.

[43] Brandeis, J., for the Court (McReynolds, J. dissenting) in *Buck* v. *Kuykendall,* 267 U. S. 307, at 315-316 (1925).

"It may be assumed that Section 4 of the state statute is consistent with the 14th amendment;

tice Butler in the Duke case,[44] that "these requirements have no relation to public safety or order in the use of... the highways," seems to be sound. The primary object of the Legislature was probably the protection of the public interest through the elimination of cutthroat competition between motor carriers, as well as between motor carriers and the older transportation agencies: electric and steam roads. The function of this requirement, as many statutes imply and some state explicitly, is to prevent such unrestrained competition as may result in a high mortality among motor carriers, making reliable transportation by motor impossible, and on the other hand, to prevent such inroads into the business of electric and steam roads as to impair their efficiency. The doctrine under which the railroads operated for so many years; *i. e.*, that the public interest is best served by the encouragement of competition[45] has apparently had its day; at all events an antithetical theory prevails in the legislation governing motor carriers, as reflected in numerous state statutes.[46] In some of the state statutes such directions to the commission are set out at considerable length and detail.

Even in the absence of legislative definition of what constitutes public necessity and convenience many of the commissions have taken into consideration existing transportation facilities, and the courts have supported them in so doing.[47] But the existing agencies

(Footnote 43 continued from page 268)
and also, that appropriate state regulations adopted primarily to promote safety upon the highways and conservation in their use are not obnoxious to the Commerce Clause, where the indirect burden imposed upon interstate commerce is not unreasonable. . . . The provision here in question is of a different character. [It required certificates for operation.] Its primary purpose is not regulation with a view to safety or to conservation of the highways, but the prohibition of competition. It determines not the manner of use, but the persons by whom the highways may be used."

See also *People* v. *Yahne*, 235 Pac. 50, at p. 51, (Cal. 1925); *Bush* v. *Maloy, supra; Michigan Public Utilities Comm.* v. *Duke, supra.*

[44] 266 U. S. 570, at 577 (1924).

[45] See the situation out of which *United States* v. *Trans-Missouri Freight Association*, 166 U. S. 290 (1897) arose, and the remarks of Mr. Justice Peckham writing for the majority; see also a striking case of cutthroat competition in *United Railroads of San Francisco* v. *San Francisco*, 249 U. S. 517.

[46] See Colorado, Courtright's Mill's Ann. S. sec. 5933 i (*a*); Ind. L. 1925, ch. 46, sec. 2; Kans. L. 1925, ch. 206, sec. 4; Ky., Act. of Mar. 5, 1926, sec. 4; Minn., S. L. 1925, ch. 185, sec. 4, 8; Miss., Act March 18, 1926, sec. 5, 8; Montana, L. 1923, ch. 154, sec. 4; N. Dakota, L. 1925, ch. 91, sec. 4, 5, 8; N. Jersey, L. 1926, ch. 144, sec. 3, 5; Ohio, Code sec. 614-87; Okla., L. 1924 (Sp.) ch. 105, sec. 2; S. Dakota, L. 1925, ch. 224, sec. 3, 10; Virginia, L. 1924, ch. 222, sec. 3 (but cf. if no Class A certificate holder in the territory); Wash., L. 1921, ch. 111, sec. 4; W. Va., Barnes' Code 1925, ch. 43, sec. 82;

But compare South Carolina, Acts 1925, No. 170, sec. 4; Vermont, G. L. 1917, sec. 5068; Virginia, L. 1924, ch. 222, sec. 3 (where there is no Certificate A holder in the territory); Wis., Stats. 1925, sec. 194.02.

Statutes recognizing the public interest against uneconomic competition frequently require that notice of hearing upon an application for a certificate be served upon other transportation agencies, and that they be considered "interested parties" to such a hearing, with a right to introduce evidence against the issuance of the certificate sought. For examples, see Kentucky, Act March 5, 1926, sec. 14; Minn., S. L. 1925, ch. 185, sec. 14; N. Dakota, L. 1925, ch. 91, sec. 4, and so forth.

[47] See, for examples, *McLain* v. *Public Utilities Commission*, 110 Oh. S. 1, especially at pp. 12-13; *Allegheny Valley Street Railway Co.* v. *Greco*, (Pa. Pub. Serv. Comm, 1916), P. U. R. 1917 A 723; *Petition of Gray*, (N. Y. Pub. Serv. Comm.) P. U. R. 1916 A 33; *Re F. A. Wilson & Co.*, (Cal. R. R. Comm., 1920), P. U. R. 1920 C 635; *Re Motor Transit Co.*, (Cal. R. R. Comm.), P. U. R. 1922 D 495; *Re Stedman, Re North River Transportation Co.*, (Wash. Dept. Pub. Works), P. U. R. 1925 D 812; *Eager* v. *Public Utilities Commission of Ohio*, 149 N. E. 865 (Oh. S. 1925); *Cincinnati Traction Co.* v. *Public Utilities Commission*, 148 N. E. 921 (Oh. St. 1925). See also the valuable note by Leslie Young, in 24 *Michigan Law Review*, 393 (Feb. 1926), and Slater, "A Study of the Motor Bus as a Competitor of the Railroads,"

are not staking their economic lives upon such favorable action alone. Steam and electric roads are themselves going into the motor transport business on a big scale, not only for terminal services, but with extensive passenger routes as well. This development is reflected in the crop of 1925 statutes specifically authorizing established carriers to go into the new business. [48]

A number of states have made the character and permanency of the proposed service a relevant consideration for the commission in passing upon an application. [49]

Ordinarily the term of certificates is indefinite, but some statutes set a maximum time limit, or require annual renewals. [50]

Revocation or alteration of certificates and permits. The Uniform Act vests the regulating commission with the power to "suspend, revoke, alter or amend any certificate or permit issued" by its authority, wherever it appears that a holder "wilfully violates or refuses to observe" the orders of the commission or the provisions of the statute. While many commissions have been given this limited power, [51] in some states the commissions are given the broad, almost unlimited power to revoke, suspend, or alter certificates whenever in the judgment of the commission such changes are necessary in the public interest. [52] Not only the Uniform Act, but most of the statutes provide specifically for notice and opportunity to be

(Footnote 47 continued from page 269)

in the *Journal of Land & Public Utility Economics* for April, 1926. Compare *Rapid Railway Co.* v. *Michigan Public Utilities Commission*, 225 Mich. 425 (1923), in which the Michigan Supreme Court held that the Commission is limited in its inquiry concerning the extent of other transportation facilities, to motor-vehicle rivals. Fellows, J. dissented, in a strong opinion which represents the general law.

[48] Ga., L. 1925, No. 421; Ind. L. 1925, ch. 46, sec. 6; Mass. Acts 1925, chap. 125, and see G. L. ch. 161, sec. 44; Neb. L. 1925, ch. 39; N. H. L. 1925, ch. 67; N. J. L. 1925, ch. 244; R. I., P. L. 1925, ch. 635, and see G. L. 1923, sec. 3726; Vt. P. A. 1925, No. 90. See *Facts and Figures* 1926, National Automobile Chamber of Commerce, p. 33 ff., and 5 Bus Transportation 72 (Feb. 1926).

[49] See Iowa, L. 1925, ch. 5, sec. 5 (applicant must show financial ability to carry out the service proposed); Kansas, L. 1925, ch. 206, sec. 4 (whether permanent or all-year-round a factor); Minn., S. L. 1925, ch. 185, sec. 8 (permanency a factor); Miss., Act March 18, 1926, sec. 8 (permanency and continuity are to be considered); S. Dakota, L. 1925, ch. 224, sec. 10 (continuity a factor); S. Dakota, L. 1925, ch. 224, sec. 14 (financial capacity a factor); Wyoming, Comp. St. 1920, sec. 5497 (financial ability a factor).

[50] See Kentucky, Act March 5, 1926, sec. 7 (renewable annually); Maryland, 2 Bagby's Ann. Code 1924, Art. 56, sec. 255 (term not to exceed 20 years); Michigan, P. A. 1923, No. 209, sec. 8 (renewable annually); N. Carolina, L. 1925, ch. 50, sec. 3 (three-year term); W. Virginia, Barnes' Code 1925, ch. 43, sec. 82 (not to exceed five-year term).

The power of the commissions to grant certificates upon terms and conditions imposed by them, a power often conferred, could probably be used to require periodic renewals, even where no limitation upon the term of certificates is provided. The following states expressly authorize the issuance of certificates upon terms and conditions to be fixed by the commission, or for the partial exercise only of the privileges applied for:

Cal., Deering's G. L. 1923, Act 5129, sec. 5; Ia., L. 1925, ch. 5, sec. 5, 8; Kans., L. 1925, ch. 206, sec. 4; Maryland, 2 Bagby's Ann. Code, 1924, Art. 56, sec. 255, 262; Mass., Acts 1925, ch. 280, sec. 2; Minn., S. L. 1925, ch. 185, sec. 8; Miss., Act March 18, 1926, sec. 5; N. Carolina, L. 1925, ch. 50, sec. 3; N. Dakota, L. 1925; ch. 91, sec. 5; Ohio, Code sec. 614-87; Okla., L. 1923, ch. 113, sec. 4; Virginia, L. 1924, ch. 222, sec. 3 (as to Class A and B only); Washington, L. 1921, ch. 111, sec. 4; Wyoming, Comp. St. 1920, sec. 5497.

[51] Idaho, L. 1925, ch. 197, sec. 4; Ky., Act March 5, 1926, sec. 13; Maryland, Bagby's Ann. Code, 1924, Art. 56, sec. 255, 262; Mich., P. A. 1923, No. 209, sec. 6; Montana, L. 1923, ch. 154, sec. 5; New Jersey, L. 1926, ch. 144, sec. 3 (of local consent); N. Dakota, L. 1925, ch. 91, sec. 4; S. Carolina, Acts 1925, No. 170, sec. 12 (grounds specified and exclusive); Virginia, L. 1924, ch. 222, sec. 3 (grounds specified and exclusive); Washington, L. 1921 ch. 111, sec. 3; W. Virginia, Barnes' Code, 1925, ch. 43, sec. 82 (See *State ex re* v. *Fortney*, 93 W. Va. 292) (1923).

[52] See California, Deering's G. L. 1923, Act

heard, before revocation or alteration, [53] and sometimes expressly protect the holder's privilege to test the commission's order in the courts. [54]

Transfer of certificates. By the provisions of the Uniform Act certificates of public convenience and necessity "may be sold, assigned, leased, and transferred as other property," but not without the authorization of the commission. Such clauses are well-nigh universal. [55] In some states, where there is no specific provision as to transfer, the requirement of commission approval for acquisition or control of competing utilities, through lease, stock purchase, merger, and the like, may lead to a similar result. [56] Where the assignee or legal representative of the holder of a certificate, obtained as a matter of right under a "grandfather clause," [57] sought to exercise privileges under the certificate, the commissions and courts have generally held such certificates to be valid only when operations are conducted by the original holder himself. [58]

IV. Commission Control of Carrier Affairs

Control over financial affairs. While the commissions have not yet assumed that extensive control over the financial

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5129, sec. 5 ("for good cause"); Iowa, L. 1925, ch. 5, sec. 17 ("for just cause"); Kans. L. 1925, ch. 206, sec. 8 ("for good cause"); Ohio, Code sec. 614-87 ("for a good cause"); Okla., L. 1923, ch. 113, sec. 4.; Ore., L. 1921, (Sp.) ch. 10, sec. 5 ("or for such other cause as the said Commission may deem sufficient). The very generality of the statutes of other states would seem to authorize a similarly broad exercise of power, but in the above states the Legislatures have been explicit.

[53] California, Deering's G. L. 1923, Act 5129, sec. 5; Kansas, L. 1925, ch. 206, sec. 8; Ky., Act of March 5, 1926, sec. 13; Mich., P. A. 1923, No. 209, sec. 6; Minn., S. L. 1925, ch. 185, sec. 4; Miss., Act March 18, 1926, sec. 5; Montana, L. 1923, ch. 154, sec. 5; N. Jersey, L. 1926, ch. 144, sec. 3; N. Carolina, L. 1925, ch. 50, sec. 5; N. Dakota, L. 1925, ch. 91, sec. 4; Ohio, Code sec. 614-87; Oklahoma, L. 1923, ch. 113, sec. 4; Ore., L. 1921 (Sp.) ch. 10, sec. 5; S. Carolina, Acts 1925, No. 170, sec. 12; S. Dakota, L. 1925, ch. 224, sec. 7; Virginia, L. 1924, ch. 222, sec. 3; Wash., Remington's Comp. St. Sec. 6389; W. Va., Barnes' Code 1925, ch. 43, sec. 82.

[54] See Kentucky, Act of Mar. 5, 1926, sec. 13; Minnesota, L. 1925, ch. 185, sec. 4; Miss., Act March 18, 1926, sec. 5; Virginia, L. 1924, ch. 222, sec. 3; Washington, L. 1921, ch. 111, sec. 3. Even without such express provisions for review of an order of revocation, such an order would be subject to review in the same manner as any other commission order.

[55] Ariz., L. 1919, ch. 130, sec. 3 (*e*); Cal., Deering's, G. L. 1923, Act 5129, sec. 5; District of Columbia, Code 1924, Par. 54, p. 589; Ia., L. 1925, ch. 5, sec. 11; Ky., Act of March 5, 1926, sec. 12; Minn., S. L. 1925, ch. 185, sec. 9; Miss., Act March 18, 1926, sec. 9; Mont., L. 1923, ch. 154, sec. 4; New Jersey, L. 1926, ch. 144, sec. 3; N. Carolina, L. 1925, ch. 50, sec. 3 (*d*) (5); N. Dakota, L. 1925, ch. 91, sec. 5; Ore. G. L. 1921 (Sp) ch. 10, sec. 4; S. Dakota, L. 1925, ch. 224, sec. 12; Washington, L. 1921, ch. 111, sec. 4; W. Va., Barnes' Code 1925, ch. 43, sec. 82.

In Kansas a purchaser or assignee seems to have a right to the privileges of the certificate purchased, regardless of Commission approval, L. 1925, ch. 206, sec. 4. In Michigan there can be no assignment of permits, P. A. 1923, No. 209, sec. 1. In Ohio the personal representative of a deceased certificate holder succeeds to his ancestor's rights thereunder, but in cases of other transfers, or continuation by surviving partners, the transfer must be approved, Code 614-87*a*.

As soon as sufficient certificates have been issued to handle adequately the needs of a certain route or territory, entrance into the field (as by railroads—the current tendency) must become more or less a matter simply of buying out existing companies and their certificate rights. The importance of the transfer approval provisions is, therefore, likely to be considerable.

[56] See Footnote 69, *infra*.

[57] Many separate motor carrier statutes, as well as the Uniform Act, provide that those operating motor carriers in good faith upon a date certain (usually a date shortly prior to the passage of the regulatory act) shall be granted a certificate as a matter of right.

[58] *Estabrook* v. *Public Utilities Commission*, 112 Oh. S. 417 (1925); *Red Ball Transit Co.* v. *Public Utilities Commission*, 112 Oh. S. 462 (1925).

affairs of motor carriers which is now quite universal in the case of other public utilities, yet, under the statutes, they have great potential powers. The draftsmen of the Standard Act recommend that the commissions be authorized to "fix, alter, and amend just, fair, reasonable and sufficient rates, fares, charges and classifications," and be given power over accounts and authority to require financial and other reports, and such powers have been widely granted.

Wherever commission control is at all extensive, the power to regulate rates is invariably granted.[59] By no means all commissions having power to regulate rates have exercised the power, and for various reasons. The Nebraska Commission refused to exercise such power, declaring: "There does not seem to be any necessity for regulation of rates or schedules at this particular time. When the industry becomes stabilized and the pioneer stage has been passed, such regulation will probably be desirable."[60] The thorny economic problem of the effect of motor rates upon steam and electric carriers has been the subject of considerable legislative direction to the commissions.[61] For example, in two statutes enacted in 1925, the Legislatures instructed the commissions in considerable detail upon this matter. "In fixing the tariff or rates...," read the North and South Dakota laws,[62] "the Commission shall take into consideration, among other things,...the effect of such tariff and rates upon other common carriers, if any, and as far as possible avoid detrimental and unreasonable competition with existing transportation service."

Not only the Uniform Act, but most of the statutes authorize the commissions to control the accounts and accounting systems of motor carriers, and quite generally specify that uniform systems may be prescribed.[63] Many general public utility statutes require a

[59] Arizona, L. 1919, ch. 130, sec. 5, 6; Ark., G. A. 1921, No. 124, sec. 4, 5, 6; Calif., Deering's G. L. 1923, Act 5129, pp. 1904-5; Colo., C. L. 1921, sec. 2924, 2925, 2926, 2927, 2934; District of Col., Code 1924, Par. 2, p. 579, Par. 24, 25, 26, 27, 28, 30, 41; Kans., L. 1925, ch. 206, sec. 2, 3; Kentucky, Act March 5, 1926, sec. 9, 10; Iowa, L. 1925, ch. 5, sec. 2; Illinois, 7 Callaghan's Stat. Ann., ch. 111*a*, Art. IV, sec. 47, 48, 49, 50, 51, 52, 54, 56; Indiana, Burns Ann. Stat. 1926, sec. 10052 *t* 2, *s* 1, *o* 1; Maine, L. 1921, ch. 184, sec. 2; Maryland, Bagby's Ann. Code, 1924, Art. 23, sec. 362, 364, 365, 373; Mass., Act 1925, ch. 280, subjecting motor carriers to G. L. ch. 159, sec. 13, 14, 17, 18, 19; Michigan, L. 1923, No. 209, sec. 1, Comp. L. sec. 8164 (7); Minn., S. L. 1925, ch. 185, sec. 4; Miss., Act March 18, 1926, sec. 5; Montana, L. 1923, ch. 154, sec. 3; Neb., Comp. St. 1922, sec. 5466; L. 1923, ch. 172; N. Jersey, L. 1911, ch. 195, p. 377; L. 1921, ch. 101, sec. 17 (*h*); New York, Cahill's Consol. L. 1923, ch. 49-26, 28, 29, 49; N. Carolina, L. 1925, ch. 50, sec. 4; N. Dakota, L. 1925, ch. 91, sec. 4; Ohio, Code 614-12, 13, 16, 18, 20, 32, 86; Okla., L. 1923, ch. 113, sec. 2, 3; Oregon, G. L. 1921, (Sp) ch. 10, sec. 3; Penna., Pa. Stat. 1920, sec. 18059, 18061, 18063, 18127; Rhode Island, G. L. 1923, sec. 3723, 3732; S. Carolina, Acts 1925, No. 170, sec. 10; S. Dakota, L. 1925, ch. 224, sec. 3, 4; Tennessee, P. A. 1919, ch. 49, sec. 4, 5, 6; Utah, Comp. L. 1917; sec. 4783, 4784, 4785, 4788, 4800; Vermont, P. A. 1925, No. 87; G. L. 1917, sec. 5061 (IV), 5062; Virginia, A. 1924, ch. 222, sec. 2, G. L. 1923, sec. 3709, and see G. L. 1923, sec. 3711; Wash., L. 1921, ch. 111, sec. 3; W. Virginia, Barnes' Code 1925, ch. 43; Wisconsin, Stats. 1925, sec. 194.01, 194.02 (2); Wyoming, Comp. St. 1920, sec. 5472, 5484, 5488.

[60] *In re C. C. Bus Lines*, (Neb. R. R. Comm. 1924) P. U. R. 1925 A 442.

[61] See Footnote 46, *supra*.

[63] L. 1925, ch. 91, sec. 4; L. 1925, ch. 224, sec. 10.

[62] California, Deering's G. L. 1923, Act 6386, sec. 48; Colorado, C. L. 1921, sec. 2944; District of Columbia, Code 1924, sec. 8, Par. 10, 11, 12, 14, 15; Illinois, 7 Callaghan's Stat. Ann., ch. 111*a*, sec. 24, 26, 28, 29, 30; Indiana, Burns Stat. sec. 10052*m*; Iowa, L. 1925, ch. 5, sec. 2; Kans., L. 1925, ch. 206, sec. 2; Maryland, Bagby's Ann. Code, Art. 23, sec. 378; Mass., Acts 1925, ch. 280, amending G. L. ch. 159, sec. 31, and see G. L. ch. 159, sec. 36; Miss., Act March 18, 1926, sec. 5; Nebraska, Comp. L. sec. 5481; Nevada, Rev. L. 1919, sec. 10; New Jersey, L. 1921, ch. 101, sec. 17 (*d*), (*f*); New York, Cahill's Consol. L. 1923, ch. 49-52; North Carolina,

depreciation account and fund, to be used only for replacement and extension purposes, [64] and such provisions are now beginning to appear in separate motor-carrier statutes. [65] No doubt the fixation of a proper and adequate depreciation rate in this field, where depreciation is such an important factor, will be one of the most troublesome problems which the commissions, in the years to come, will have to meet. [66]

The supervision of security issues and other encumbrances is frequently conferred upon the commissions as yet another form of financial control. [67] Commissions are likewise given authority to make valuations, [68] to supervise the purchase of stock in other utilities, leasing, mergers, and the like. [69] The recent marked tendency to mergers and consolidations in this field [70] is one of the significant economic developments, and the approval of such mergers by the commissions is regarded as in line with present-day theories.

To protect individuals injured in their

(Footnote 63 continued from page 272)
L. 1925, ch. 50, sec. 4; N. Dakota, L. 1925, ch. 91, sec. 4; Ohio, Code sec. 614-10, 614-86; Okla., L. 1923, ch. 113, sec. 2; Oregon, G. L. 1921 (Sp) ch. 10, sec. 3; Penna. Stats. 1920, sec. 18066, 18146, 18157; S. Dakota, L. 1925, ch. 224, sec. 3, sec. 21; Tenn., L. 1919, ch. 49, sec. 5; Utah, Comp. L. 1917, sec. 4816, 4825; Wyoming, Comp. Stats. 1920, sec. 5496 (B); Washington, Remington's Comp. St. 1923, sec. 6389.

[64] The provisions of the Code for the District of Columbia are fairly typical. "These rates [of depreciation] shall be such as will provide the amounts required over and above the expense of maintenance to keep such property in a state of efficiency corresponding to the progress of the industry. . . . All moneys in this fund may be expended in keeping the property . . . in repair and good serviceable condition for the use to which it is devoted, or invested, and if invested, the income from the investment shall also be carried in the depreciation fund." Par. 16, p. 583. See also Illinois, 7 Callaghan's Stat. Ann., ch. 111*a*, sec. 29; New Jersey, L. 1921, ch. 101, sec. 17 (*f*); Ohio, Code 614-49, 614-50; Pennsylvania, Stats. 1920, sec. 18066, Tennessee, L. 1919, ch. 49, sec. 5; Utah, Comp. L. 1917, sec. 4817.

[65] See Iowa, L. 1925, ch. 5, sec. 2; Kansas, L. 1925, ch. 206, sec. 2; Oklahoma, L. 1923, ch. 113, sec. 2.

[66] *In re Crystal City Gas Co.* (N. Y. Pub. Ser. Comm.) P. U. R. 1923 B 828 the Commission approved a 20% rate upon motor vehicles owned by a gas company. The claim of a stage line that the rate should be 50% was held unsound by the California Commission, *Re Crown Stage Co.*, P. U. R. 1921 A 747. Rates of 19.7% and 21½% were approved by the District of Columbia Commission in two cases involving, respectively, auto livery and taxi companies. *In re Auto Livery Co.*, P. U. R. 1915 E 1; *In re Terminal Taxicab Co.*, P. U. R. 1915 B 546. See also the rates allowed on various items of equipment *Re Union Transfer Co.*, P. U. R. 1917 A 225 (P. S. Comm. of D. of C.)

[67] Arkansas, Crawford and Moses Digest, 1921, sec. 1657, 1659; Calif. Deering's G. L. 1923, Act 5129, sec. 6; Colorado, 3 Courtright's Mills A. S. sec. 5933*k*; District of Columbia, Code 1924, Par. 73 to 80, p. 594; Georgia, 2 Park's A. C. sec. 2665; Illinois, 7 Callaghan's Stat. Ann., ch. 111*a*, sec. 35, sec. 36; Indiana, Burn's Ann. S. sec. 10052*j* 3 to 10052 *o* 3; Kans., R. S. 1923, ch. 66-125; Maryland, Bagby's Ann. Code Art. 23, sec. 381; Nebraska, L. 1923, ch. 168; New Jersey, L. 1911, ch. 195, sec. 18; New York, Cahill's Consol. L. 1923, ch. 49-55; Ohio, Code sec. 614-53 to 614-58; Penna., Stats. 1920, sec. 18090 to 18093; Tennessee, L. 1919, ch. 49, sec. 6; Vermont, P. A. 1925, No. 83 amending G. L. sec. 4981, and see G. L. sec. 5061 (VII).

[68] Arkansas, G. A. 1921, No. 124, sec. 9; Colorado, Comp. L. 1921, sec. 2943; District of Columbia, Code 1924, Pars. 6, 7, 8 and 9, p. 580, and see Par. 64, p. 592-3; Georgia, 2 Park's Ann. Code sec. 2664; Illinois, 7 Callaghan's Stat. Ann. ch. 111*a*, sec. 45; Indiana, Burns' Ann. Stat. sec. 10052*ii*; Kansas, R. S. 66128; Maryland, Bagby's Ann. Code, Art. 23, sec. 385; Mass., G. L. 159, sec. 26, 27; Nevada, L. 1919 sec. 8, p. 198; New Jersey, L. 1911; ch. 195, p. 376; Penna. Stats. 1920, sec. 18151, 18152, 18153; Tennessee, L. 1919, ch. 49, sec. 4; Utah, Comp. L. 1917, sec. 4815.

[69] See Colorado, 3 Courtright's Mills A. S. sec. 5933 *j* (*a*); District of Columbia, Code 1924, Par. 54, p. 589, and see also U. S. Statutes at L. part 1, p. 1006; Illinois, 7 Callaghan's Stat. Ann. ch. 111*a*, sec. 42; Indiana, Burns' Ann. Stat. sec. 10052 *r* 3; 10052 *q* 3; New Jersey, L. 1911, ch. 195, sec. 18 (*h*), sec. 19; Ohio, Code sec. 614-60; Penna. Stats. 1920, sec. 18097; Vermont, G. L. 1917, sec. 4982, and see also sec. 5023, 5025.

[70] See, for example, an account of a huge merger, in 3 *Bus Transportation* 335 (1925). The mergers in 1925 are recorded in 5 *ibid* 64.

persons or property by the carelessness of financially irresponsible motor carriers, the Legislatures have almost unanimously required the posting of indemnity bonds or the carrying of insurance in favor of such injured persons. [71]

Control over physical operation. The broadest of all the powers given the commissions relates to actual operation. The Uniform Act provides that the commission "is hereby vested with power and authority and it is hereby made its duty to supervise and regulate auto transportation companies" and to "regulate the facilities...service and safety of operations...and to supervise and regulate auto transportation companies in all matters affecting the relationship between such auto transportation companies and the traveling and shipping public." The all-inclusive sweep of this grant is found quite generally in the legislation, [72] and under such provisions the commissions have promulgated "Rules and Regulations" covering in considerable detail the mode of operation, [73] including rules governing time schedules, accident reports, placards, drivers, loading of vehicles—in brief, rules for all the minutiae of the enterprises regulated.

In addition to the authority conferred by such general provisions, many states have specified a great variety of subjects which the commissions may control. These include not only safety,

[71] Ariz., L. 1919, ch. 130, sec. 7; Conn., P. A. 1921, ch. 340; Idaho, L. 1925, ch. 197, sec. 3; Illinois, 7 Callaghan's Stat. Ann. ch. 111*a*, sec. 72, 73, 74, and see also 5 Callaghan's Stat. Ann. ch. 95*a*, sec. 44 to 48; Indiana, L. 1925, ch. 46, sec. 3; Iowa, L. 1925, ch. 5, sec. 12; Kansas, L. 1925, ch. 206, sec. 7; Kentucky, Act of March 5, 1926, sec. 38*a*; Maine, L. 1925, ch. 167, sec. 7 to 14; Mass., G. L. ch. 159, sec. 46, as amended by Acts 1925, ch. 346, sec. 7; Michigan, P. A. 1923, No. 209, sec. 7; Minnesota, S. L. 1925, ch. 185, sec. 11; Mississippi, Act March 18, 1926, sec. 11; Montana, L. 1923, ch. 154, sec. 6; Nevada, L. 1925, ch. 161, sec. 2; New Hampshire, L. 1919, ch. 86, sec. 2; New Jersey, L. 1926, ch. 144, sec. 3, and see L. 1926, ch. 211 and L. 1926, ch. 231, sec. 2; New York, Cahill's Consol. L. 1925 supp. Art. 11, sec. 282*b*, Cahill's Consol. L. 1923, ch. 64-26; North Carolina, P. L. 1925, ch. 50, sec. 3 (*g*); N. Dakota, L. 1925, ch. 91, sec. 9; Ohio, Code, sec. 614-99; Okla., L. 1923, ch. 113, sec. 7 and see L. 1924 (Sp) ch. 105; Oregon, L. 1921 (Sp) ch. 10, sec. 6, L. 1921, ch. 402; Rhode Island, G. L. 1923, sec. 3734, 3735; South Carolina, Acts 1925, No. 170, sec. 5 and see *ibid*, sec. 18; South Dakota, L. 1925, ch. 224, sec. 15, 16; Utah, L. 1925, ch. 114; Vermont, P. A. 1925, No. 73, p. 113; *ibid*, No. 72, p. 112; Virginia, L. 1924, ch. 222, sec. 4; Washington, L. 1921, ch. 111, sec. 5; West Va., Barnes' Code 1925, ch. 43, sec. 82; Wisconsin, Stats. 1925, sec. 194.02 (3).

Some states also require a bond to secure the faithful performance of the certificate holder's obligations, the payment of license fees, and the like. See, for example, Minn., S. L. 1925, ch. 185, sec. 11, and Miss., Act March 18, 1926, sec. 11.

[72] This particular phrase is found in the statutes of Iowa, L. 1925, ch. 5, sec. 2; Kansas, L. 1925, ch. 206, sec. 2; Minnesota, S. L. 1925, ch. 185, sec. 4; Miss., Act March 18, 1926, sec. 5; N. Dakota, L. 1925, ch. 91, sec. 4; Ohio, Code sec. 614-86; Oregon, G. L. 1921 (Sp) ch. 10, sec. 3; S. Dakota, L. 1925, ch. 224, sec. 3; Washington, L. 1921, ch. 111, sec. 3.

[73] Such regulations can be secured through the administrative officers entrusted with the enforcement of the acts in each state. A compilation of such regulations has been made by the American Electric Railway Association, Bulletin 17.

Many statutes, and the Uniform Act, authorize the commissions to prescribe general rules and regulations governing motor-carrier operation. See California, Deering's G. L. 1923, Act 5129, sec. 4; Colo., Comp. L. 1921, sec. 2935; Iowa, L. 1925, ch. 5, sec. 2; Kans., L. 1925, ch. 206, sec. 2; Kentucky, Act March 5, 1926, sec. 9, 13; Maine, L. 1921, ch. 184, sec. 2; Maryland, Bagby's Ann. Code, 1924, Art. 56, sec. 255, 262; Mass., G. L. ch. 159 amended by Acts 1925, ch. 280; Michigan, P. A. 1923, No. 209, sec. 2; S. L. 1925, ch. 185, sec. 4; Miss., Act March 18, 1926, sec. 5; Nebraska, Comp. Stat. sec. 5468; N. Hampshire, L. 1919, ch. 86, sec. 2; North Carolina, L. 1925, ch. 50, sec. 4; North Dakota, L. 1925, ch. 91, sec. 4; Ohio, Code sec. 614-86; 514-27; Oklahoma, L. 1923, ch. 113, sec. 2; Oregon, G. L. 1921 (Sp) ch. 10, sec. 3; Rhode Island, G. L. 1923, sec. 3723, 3732; S. Carolina, Acts 1925, No. 170, sec. 10; S. Dakota, L. 1925, ch. 224, sec. 3; Virginia, G. L. 1923, sec. 3709; Washington, L. 1921, ch. 111, sec. 3; W. Virginia, Barnes' Code 1925, ch. 43, sec. 82.

speed, sanitation, equipment, time schedules, the examination and licensing of drivers, and the like,[74] but even such matters as the extension and improvement of service, repairs, and limitations upon abandonment of service.[75]

[74] On control over safety, see Iowa, L. 1925, ch. 5, sec. 2; Miss., Act March 18, 1926, sec. 5; Nevada, L. 1925, ch. 161, sec. 2; N. Hampshire, L. 1919, ch, 86, sec. 2; Oklahoma, L. 1923, ch. 113, sec. 8; Rhode Island, G. L. 1923, sec. 3723, 3732.

On control over speed, see N. Hampshire, *supra;* Oklahoma, *supra.*

Ordinarily the speed maximum set for motor vehicles in general govern motor-carrier operation. Some Legislatures set a particular maximum for such carriers, instead of permitting the general law to govern, or of authorizing the commissions to fix a maximum. See, for example, Iowa, *supra;* Wisconsin, Stats. 1925, sec. 194.03.

On control over equipment, see New Jersey, L. 1921, ch. 101, p. 165; Ohio, Code, 614-27, 614-28; Miss., Act March 18, 1926, sec. 5.

On control over routes and schedules, see California, Deering's G. L. 1923, sec. 4; Georgia, Park's Ann. Code, sec. 2664; Iowa, L. 1925, ch. 5, sec. 2; Kansas, L. 1925, ch. 206, sec. 2; Kentucky, Act of March 5, 1926, sec. 9, 10; Maine, L. 1921, ch. 184, sec. 2; Maryland, Bagby's Ann. C. 1924, Art. 56, sec. 253, 260; Mass., Acts 1925, ch. 280; Minn., S. L. 1925, ch. 185, sec. 4; N. Dakota, L. 1925, ch. 91, sec. 4; Ohio, Code, 6,614-86; Oklahoma, L. 1923, ch. 113, sec. 2; Penna. Stat. 1920, sec. 18070; Rhode Island, G. L. 1923, sec. 3723, 3732; S. Carolina, Acts 1925, No. 170, sec. 7; S. Dakota, L. 1925, ch. 224, sec. 4; W. Virginia, Barnes' Code 1925, ch. 43, sec. 82; Wisconsin, Stats. 1925, sec. 194.01 (1), 194.02 (2).

On drivers, see S. Carolina, Acts 1925, No. 170, sec. 8; Kentucky, Act of March 5, 1926, sec. 8, 32. In some states the driver's license is issued by some other agency than the regulating commission, as in No. Carolina, L. 1925, ch. 50, sec. 6 (Secretary of State) or Rhode Island, G. L. 1923, sec. 3728 (State Board of Public Roads).

The commissions or other regulating authorities are, in most instances, definitely authorized to regulate the service and facilities furnished the public.

Arizona, L. 1919, ch. 130, sec. 5; Arkansas, G. A. 1921, No. 124, sec. 4; Colo., Comp. L. 1921, sec. 2924; District of Columbia, Code 1924, sec. 8, Par. 1, p. 579; Georgia, Park's Ann. Code sec. 2664; Illinois, 7 Callaghan's Stat. Ann., ch. 111*a*, sec. 69, sec. 53, 59, 64; Indiana, Burns' Ann. Stat. 10052 *g*, 10052 *u* 2; Kansas, L. 1925, ch. 206, sec. 2; Maryland, Bagby's Ann. Code 1924, Art. 23, sec. 353, 373; Mass., Acts 1925, ch. 280; Minn., S. L. 1925, ch. 185, sec. 4; Miss., Act March 18, 1926, sec. 5; Montana, L. 1923, ch. 154, sec. 3; Nebraska, Comp. St. sec. 5466; Nevada, L. 1919, sec. 9, p. 198; New Jersey, L. 1921, ch. 101, p. 165; New York, Cahill's Consol. St. 1923, ch. 49-26; N. Carolina, L. 1925, ch. 50, sec. 4; N. Dakota, L. 1925, ch. 91; Ohio, Code 614-12, 614-13; Oregon, G. L. 1921 (Sp.) ch. 10, sec. 3; Penna., Stats. 1920, sec. 18058, 18070, 18126; S. Dakota, L. 1925, ch. 224, sec. 3; Tennessee, L. 1919, ch. 49, sec. 5; Utah, Comp. L. sec. 4803; Vermont, G. L. 1917, sec. 5061 (III), 5063; Virginia, G. L. 1923, sec. 3709; Washington, L. 1921, ch. 111, sec. 4; Wisconsin Stats. 1925, sec. 194.01; Wyoming, Comp. St. 1920, sec. 5490, 5492.

[75] On extensions, see Colo., Comp. L. 1921, sec. 2946, 2914; District of Columbia, Code 1924, Par. 96, p. 600; Illinois, 7 Callaghan's Stat. Ann., ch. 111*a*, sec. 65; New Jersey, L. 1921, ch. 101, p. 165; Tennessee, L. 1919, ch. 49, sec. 5; Utah, Comp. L. 1917, sec. 4804.

On repairs, see District of Columbia, Code 1924, Par. 96, p. 600; Nevada, L. 1925, ch. 161, sec. 2; Illinois, 7 Callaghan's Stat. Ann. ch. 111*a*, sec. 65; Ohio, Code, sec. 614-28; Pennsylvania, Stat. 1920, sec. 18060.

Control over abandonment of service is granted specifically, in motor-carrier statutes, in Kansas, L. 1925, ch. 206, sec. 5; Kentucky, Act March 5, 1926, sec. 5, 21, 24; Minnesota, S. L. 1925, ch. 185, sec. 4; Miss., Act March 18, 1926, sec. 5; Nevada, L. 1925, ch. 161, sec. 3; N. Dakota, L. 1925, ch. 91, sec. 16; S. Dakota, L. 1925, ch. 224, sec. 5.

NOTE—In the preparation of this study we have been greatly aided by the cooperation of many of the Public Service Commissions or Motor Vehicle Bureaus, as well as by a number of individuals connected with the business of motor transport. We are especially grateful to John M. Meighan of the American Automobile Association, Edward F. Loomis of the National Automobile Chamber of Commerce, James W. Brooks of the American Highway Educational Bureau, Chester G. Moore of Joliet, Illinois, Austin W. Stromberg, Editor of *Power Wagon,* and Howard M. Wilson of the Cincinnati Chamber of Commerce.

VALUE OF THE PROPERTY AS THE BASIS OF RATE REGULATION

By JAMES C. BONBRIGHT

IN an article published in the January issue of the JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS, Judge William L. Ransom, counsel for the Consolidated Gas Company of New York, takes up his vigorous pen in defense of a doctrine which has long been dear to the hearts of many legal representatives of the railway and public utility interests of this country. It is the doctrine that public utilities, under the law of the land as determined by our courts, are entitled to charge such rates as will give them a fair return on the *present value* of their property—a value that is the same thing, and that is to be measured in the same way, whether the purpose of the valuation be for rate-making, for condemnation, for measurement of damages, or for private purchase and sale.

This position, to be sure, has been repeatedly challenged by many writers and on many occasions almost from the beginning of the discussions of the proper basis of rate control. It has been rejected, almost without exception, by recent writers on the control of public utilities, and I am not aware of a single economist of reputation who has ventured to come to its defense.

It so happens, however, that the position to which Mr. Ransom subscribes is a position which still receives at least vocal approval on the part of a considerable number of judges in both federal and state courts, as well as of counsel for the utilities.

Several decisions of the highest court of the land, indeed, have been accompanied by opinions which, if taken literally, can have no other meaning than that value for rate-making purposes is no different from any other kind of value. It is true that other statements contained in the majority opinions of the same court seem clearly to indicate a different view and, oddly enough, these contradictory remarks are sometimes contained in the very same opinions.[1] More recently, however, a lower federal court has handed down a decision which appears quite unambiguous in this respect.[2] For in rejecting the final valuation placed by the Interstate Commerce Commission on a railway pursuant to the direction of the Valuation Act, the court based its rejection on the ground that the Commission had labored under the delusion that the Valuation Act calls for a peculiar "value for rate-making purposes" different from value for other purposes. No doubt this case will go to the Supreme Court for final adjudication, but meanwhile it gives judicial support to Mr. Ransom's contentions.

Not being a lawyer, I shall not presume to discuss Mr. Ransom's apparent conviction that the Supreme Court

[1] This inconsistency has been pointed out in an article by R. L. Hale, "Pseudo-Protection of Property in Rate Cases," 24 *Michigan Law Review*, 166 (1925), commenting on Justice Hughes' opinion in the *Minnesota Rate Cases*, 230 United States 352 (1913).

[2] *Los Angeles and Salt Lake Railroad Company* v. *United States*, 8 Fed. (2nd) 747, (Dec. 7, 1925).

has already definitely adjudicated the point in question, although I think it fair to remark in passing that he has clearly allowed himself the advocate's prerogative of quoting only those judicial utterances that support his case and of neglecting to mention certain other holdings and statements that cannot be easily reconciled with his chosen position.[3] In this article I am interested simply in pointing out what seems to me the economic absurdity of Mr. Ransom's position, an absurdity which judicial acceptance, while it might clothe it with sanctity, could never transform into reason.

At the outset, however, let me make clear what I conceive Mr. Ransom's position to be. A hasty reading of his article might well give the impression that the writer is using the term "present value" as a synonym for reproduction cost. Such, indeed, has been the frequent usage of the term.[4] That this usage is both inaccurate and misleading will not be denied, however, by any student of economics; for "value," in the currently accepted sense of market value or commercial value, may differ from reproduction cost just as clearly as it may differ from original cost. One may believe that present value is the proper basis of rate control, or one may believe that cost of reproduction is the proper basis, but one cannot believe these two things at the same time without being guilty of a confusion of terms. Mr. Ransom, however, is not guilty of any such confusion, at least not in the early part of his article. For he notes the distinction between reproduction cost and present value and indicates that where the two do not coincide, it is the former rather than the latter which must be accepted as the rate base. *Value* is the real desideratum; cost of reproduction is important only because it is often the best available *evidence* of that value. "If the property," he says, "has not an ascertainable market value (a contemporaneous sale price established under circumstances which make it a fair criterion of the present worth of the *property*), 'other evidence is resorted to,' and 'cost of reproduction at the date of valuation' has come to be recognized as the starting point and most influential factor in giving 'due regard to construction costs, conditions, wages, and prices affecting value'[5] at the date of the inquiry." The case to which Mr. Ransom refers is a recent damage case involving the compensation for the sinking of a ship, where reproduction cost was accepted as evidence of commercial value. But the same rules of valuation apply, in Mr.

[3] An example of lack of caution in the author's analysis of judicial decisions may be found on page 10, where he refers to the *Smyth* v. *Ames* decision as establishing the principle "that private property devoted to the public service was entitled to earn a return upon its *present value* and not upon its original cost, and that present value was measured by present reproduction cost (with nothing said about any deduction for any kind of depreciation)." A more careful statement would be that while the court in a dictum (for it was only such) did state that "value" was the proper basis, it refused to accept any one test of value as controlling, and it included "the original cost of construction" with just as much emphasis as "the present as compared with the original cost" in its enumeration of factors to be considered. Later opinions, it is true, stated that a public utility is entitled to a return on its "property, and not the original cost of it," but it would certainly be inaccurate to say that the Supreme Court, even in its later decisions, has held that "present value" is measured by reproduction cost.

[4] "Present value" is often used as a synonym for "cost of reproduction depreciated," to distinguish it from "cost of reproduction new."

[5] *Standard Oil Co.* v. *Southern Pacific Co.*, 268 United States 146.

Ransom's opinion, in the rate case and in the damage case.

Having made this clear and accurate distinction not only between present value and original cost but also between present value and cost of reproduction, Mr. Ransom proceeds at length to build up a defense of present value as the proper rate base. But in making this defense he ignores completely his earlier distinction in that he constantly assumes an identity between value and reproduction cost. Every one of his hypothetical cases makes this assumption. He calls attention, for example, to the case of two plants of equal capacity, the one built in a period of low construction costs, the other in a period of high costs. Why, he asks, should the consumers served by the latter plant pay more than the consumers of the former plant simply because of historical differences which in no way represent differences in service. "Each such enterprise," he states, "must be allowed to earn a like return for like service, without discrimination because of any accident or incident as to the date when its property was first constructed and/or installed" (p. 9).

Whether or not the illustration adduced by Mr. Ransom is a valid defense of reproduction cost as against actual prudent investment, is a question which I have no desire to raise in this article. Indeed, for present purposes I am ready to assume that it is valid in order to avoid confusing the issue. What Mr. Ransom has apparently failed to see, however, is the fact that his previous position in defense of actual value puts him in the very line of fire in which he has let fly his missile against prudent investment. For if two public utilities of equal capacity should not charge different prices by virtue of their different historical costs, why, pray, should they be permitted to charge different prices by virtue of their different market values?

I am curious to learn Mr. Ransom's opinion as to a proper rate base in the case where the market value of the property is materially higher or lower than the cost of reproduction. Let us take, first, the case of a utility the reproduction cost of which is $5,000,000, but the market value of which (as measured either by the current prices of its securities or by the amount for which it could be sold to outside interests) is only $3,000,000. This situation might very well prevail because the company, through no fault of a regulating commission, has been subject to serious competition or because the territory in which it is located has suffered a severe and protracted business depression. In cases of this kind would Mr. Ransom insist that a commission should set the rate base at $3,000,000 in conformity with his earlier statement that present value is the proper basis, or would he set it at $5,000,000 in harmony with his later contention that the cost of reproduction is the correct test?

Let us suppose, in the second case, that the utility, while its reproduction cost remains at $5,000,000, becomes so profitable that its market value rises to $7,000,000. A situation of this kind may well develop where a commission has previously fixed rates at a time of high operating expenses and where it has not yet reduced these rates as operating expenses have fallen. What figure would Mr. Ransom choose in a case of this nature? Five million dollars?

Seven million dollars? Or some compromise between these two figures?

But it is quite unnecessary to set up hypothetical cases of the kind mentioned above, for both situations are frequently met with in current public utility history. As an example of the type of utility the *value* of which has long been below its reproduction cost, one may instance the many street railway companies which have been unable, even when permitted to disregard the 5-cent fare fixed in their franchise agreements, to earn more than a miserably paltry return above operating expenses. Who can gainsay that the *values* of these railway companies, in the sense of market or commercial values, are far below the cost of reproduction? Yet would Mr. Ransom be willing to accept these low values as the rate bases by which to judge the adequacy of rates to be charged in the future? On the other hand, examples of utilities the values of which may exceed their reproduction cost almost certainly prevail in the electric power and light industry today. The recent rapid growth of the net earnings of these companies has led to a marked rise in their stock quotations, and it has also encouraged holding companies to purchase various operating companies at prices which capitalize the high present earnings. What will happen if earnings continue to rise and if public service commissions attempt to enforce a wholesale reduction of rates to the point where the companies are making only a so-called "fair return on the fair value" of their properties? I strongly suspect, in these cases, that if commissions base the rates on reproduction cost and that if this cost turns out to be much less than the recently established market values of the properties, counsel for the companies will urge the very point on which Mr. Ransom insists in the early part of his article, but which he disregards in the later part. They will quote the courts to the effect that the proper measure of rates is the "present value" of the property, and they will insist that reproduction cost in the present cases is inadequate because it does not represent the full present value.[6]

It may be, of course, that Mr. Ransom will still stand by reproduction cost as the proper basis of valuation in both of the two situations that I have suggested. In defense of this apparent inconsistency he may take the position that these cases are not normal, that they represent a pathological legal situation, and that therefore the true value rule, accurate and proper though it is for the normal case, must give way to some special rule designed for a freak situation. But if he should take this position, I should raise a question. Why should one suppose that the present value of a business enterprise is even *normally* equal to the reproduction costs of its assets? Where lies the close connection between the two? The classical economists, to be sure, have insisted on such a connection, but only under conditions of keen competition. The tendency under free competition for the value of a commodity to equal its cost

[6] How would Mr. Ransom apply the "present value" rule to the case of an interstate railway which is earning a large excess over the "fair return on the fair value" of its property as computed by the Interstate Commerce Commission and which retains 50% of this excess under the provisions of the Recapture Clause of the Transportation Act? Suppose that the rate base, as determined by an estimate of reproduction cost, amounts to $10,000,000, but that the property, because of its high excess earning power, is commercially worth $15,000,000. Would Mr. Ransom insist on raising the rate base so as to make it equal the "present value" of the property?

of production is a tendency which they concede does not prevail under monopoly conditions. But as Mr. Ransom does not confine himself to a discussion of a rate base for freely competing utilities, he would hardly find comfort in the classical economist's concept of "normal value." If, then, there is even a rough identity between the reproduction cost of most utility properties and their market values, this identity can hardly be accounted for except on the ground that the rate-making authorities have regulated rates in such a way that the value of the utilities is brought into rough conformity with the reproduction cost of the properties. But if this, indeed, is the actual situation, then reproduction cost does not simply *measure* the value of the utility; instead it fixes that value.

The foregoing criticism of *value* as a test of fair rates, while it has perhaps been stated in a novel form, is really as old and as familiar as anything in the theory of rate control. For many years various writers, lay and judicial, have been insisting that the old dictum of *Smyth* v. *Ames* should be taken literally, and that when Justice Harlan said that the proper test of rates was the ability of a company to earn a fair return on the value of the property, he meant *value* in the current business sense of the term—that is to say, market value. For an equal number of years, however, another group of writers has been saying that the use of value as a rate base is an economic absurdity, since it involves the circular reasoning of testing the fairness of rates by a standard which is itself dependent on the rates already established or anticipated by the market. To this criticism a few of the bolder supporters of the "value" basis have replied, but their replies, without a single exception, have failed completely to meet the issue.[7] By far the larger number, however, among supporters of this doctrine, have followed the much more effective practice of ignoring the objections that have

[7] The most usual attempt to meet the criticism is to insist that, while market value is the proper basis by which to control public utility rates, this value must be *measured* by some other yardstick than by a capitalization of earning power. This seems to be the position taken by S. O. Dunn, editor of the *Railway Age,* in an article on "The Valuation of Railways," 113, *Atlantic Monthly,* 403, 408-409 (March, 1913). But the objection to the use of market value in a rate case is that the very value itself, not merely the customary method of measuring it, is dependent on the rates to be charged and therefore cannot be assumed as a starting point. If two different methods of valuation should lead to different results, then these "values" and not simply the means of arriving at them, are different.

A second attempt to uphold the market-value test is made by those who contend that what is desired is the market value, not of the enterprise as a whole (which is clearly dependent on net earnings), but rather of the physical assets as distinct from the going concern. Aside from the fact that the courts have been unwilling to sanction a valuation of the "bare bones" without consideration of what they call "going value," this position is invalid, for it would lead logically to the absurd conclusion that the proper valuation for rate-making is the scrap value of the property. What is the market value of the *physical property* (distinct from the going concern and the franchise) if not scrap value? At least, it is scrap value, if by market value we mean that "the worth of a thing is the price it will bring." A somewhat different view of market value was advanced by R. L. Hale, who in an early discussion of valuation was inclined to think that what the Supreme Court meant by "value" was the market value of the physical assets. He, himself, however, has recanted, as a result of a criticism by Gerard C. Henderson. See Hale, *Valuation and Rate Making* N. Y., (1918), chap. iii; Henderson, *Railway Valuation and the Courts,* 33, *Harvard Law Review,* 902, 1031 (1920); Hale, *The Physical Value Fallacy in Rate Cases,* 30, *Yale Law Journal,* 710,718 (1921). To complete the record one may cite W. H. Maltbie's defense of the "true value" basis against a criticism by R. L. Hale and a rejoinder by Mr. Hale, 9, *American Bar Association Journal,* 392 (June 1923); 9 *ibid,* 534 (Aug. 1923); 10 *ibid,* 60 (Jan. 1924).

been raised against their views and of repeating the old formula of "present value" without even appearing to be aware that anybody had ever questioned the logic of their position. Mr. Ransom seems to have followed this latter custom. But, unlike judges who enjoy immunity from being called to account save by persons who wear a similar robe, more elaborately embroidered, Mr. Ransom has invited discussion and criticism by readers of an economic journal. I feel sure, therefore, that he will not take amiss this challenge to his position, and the invitation which it implies to explain his thesis that the test of "value for rate-making," like the test of value for other purposes, is market value.

COMMENTS UPON PROFESSOR BONBRIGHT'S ARTICLE

I AM glad that the editors of the JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS have asked Professor Bonbright to make a restatement of the views of those economists who find fault with the trend of judicial decision on valuation questions. The useful public purposes of this important journal may best be served if divergent but reasoned views find impartial representation in its columns. Although I am grateful to the editors for inviting me to comment upon Professor Bonbright's discussion, I have no disposition to undertake any argument or controversy as to his contentions.

The two articles which I have contributed to this magazine this year were not written in defense of any doctrine or in support of any contentions or views whatever, beyond those explicitly stated as such, in the articles themselves. These two articles were in fact written as one, but its considerable length compelled an editorial separation which, evidently, was not wholly successful, as it left for the April issue of the JOURNAL the concrete suggestions—in part constructive, I hope—which constituted my only reasons for consenting to write on the subject of valuation at all.

In what became, by the enforced separation, the first of the two articles, I stated the practical and historical considerations which seemed to be the background for my subsequent discussion of possible improvements in procedure and point of view. As I tried to make clear, so that those who run might read (and *vice versa),* my purpose in so doing was to point out "some of the practical considerations which, logically or illogically," have led to the establishment of the "present value" concept as to private property "taken" for public uses, and especially "to show that about as many difficulties and complications inhere in valuation and in rate revision under an 'investment' theory as under the 'present-value' concept, and that there can be no warrant for an assumption that all valuation troubles would be over if the 'investment' theory were adopted."

At least from the point of view of the purposes which impelled me to write these articles, I regret that Professor Bonbright has made "reply" only to the first of them, and that he prepared his reply to the first before the second article had appeared. Otherwise, he might not so completely have misapprehended what I tried to put to paper, out of a rather diversified experience in this valuation field.

This is not said by way of apology or

abandonment of anything contained in my articles. They speak for themselves; I invite a reading and consideration of them together, as an adequate rejoinder to most of the doubts and difficulties expressed by Professor Bonbright.

One difficulty encountered at the outset is that he and I approach these matters from radically different starting-points. His academic environment and preoccupations make him mostly concerned with what he thinks the law ought to be, from the point of view of economic theory. I have always been mightily interested in the views of economists as to what the law ought to be, but I have had to deal mostly with the law as it is. Fortunately or unfortunately, I am concerned all the while with the way things actually work out, in the fields of industry, management, operation, and finance. I have never been able to get rid of practical obstacles or human fallibilities, simply by advocating or acting upon an economic theory, no matter how attractive mechanistically. Some of these actual and practical developments of the subject, as I have seen them at first hand, were set out in my articles as a background for my conclusions as to the lines along which progress may be sought.

Underlying Professor Bonbright's article, however, there seem to me to be one or two conscious or unconscious assumptions which arouse my emphatic dissent. He seems to assume that the academic students and theoretic disputants have, in some unexplained way, become the sole custodians of sound economic thought on these subjects, and that the academicians alone are giving due weight to the economic aspects of questions which commingle law and public policy. The preconception that the judicial solutions of these problems —in the valuation field, for example— have been, or are likely to be, based upon unsound economic grounds or rendered without full consideration of the economic aspects, *inter alia,* is one which might well be avoided by those who teach these matters from the economic angle. This Philistine doctrine has had some vogue among the younger economists, but it has been born out of a lack of knowledge of what goes on in the courts of America. I venture to say that no seminar or classroom gives as close and thorough and patriotic consideration to the economic, social, and sociological aspects of constitutional questions as do the conferences of the members of the appellate courts of this country, state and federal. This is as it should be; it is the fact that our great appellate judges study closely and continuously the economics and the social consequences of the questions which come before them in the guise of litigated controversies.

Not only that, but I do not believe that counsel for many of the larger industries would long hold his position, if he tried to persuade the courts to adopt unsound views of either law or economics, for the sake of gaining some fancied advantage for his industry, in the particular case or in general. The whole industrial and financial fabric of America is utterly dependent on the establishment of sound views, in the fields where economics blends with law and policy, as in every other. There may be, and often is, a great deal of difference of opinion as to what sound economics may make advisable, as to a given problem, but there is no reason for the recurring suggestion that the most vital problems of American industrial life are being determined by the

courts without full and sound consideration of the economic aspects. Nor is there warrant for the assumption that, as to what is to be deemed sound economics, good law, and basic American policy, the professors are right and the Supreme Court is wrong.

If I could do so without trespassing unduly upon the space of this magazine, I would like to restate the considerations which occur to me, as to Professor Bonbright's queries and contentions. What I would say about them was rather fully and carefully stated in my two articles. Even what Professor Bonbright calls "an example of lack of caution in the author's analysis of judicial decisions" will, upon an examination of the whole paragraph as well as the particular sentence, be found attributable to his own confusion as to my statement of the contentions of counsel for the public representatives. The fact remains, as many subsequent opinions of the federal and state courts have pointed out, that what the court *did* in *Smyth* v. *Ames* was to reduce the so-called "rate base" from actual original cost to current replacement cost.

WILLIAM L. RANSOM

STATE POLICIES IN AGRICULTURAL SETTLEMENT

By B. HENDERSON

BEFORE discussing policies for dealing with the expansion of the agricultural area of this country, it may be well to determine whether there is an expansion taking place. The total number of farms in the United farms decreased from 955,883,715 in 1920 to 925,032,008 in 1925, a loss of 76,080 farms. The total acreage in farms decreased from 955,883,715[1] in 1920 to 925,032,008[1] in 1925, a loss of 30,851,707 acres. The United States Department of Agriculture estimated that in 1924 more than 2,000,000 persons moved from farms to towns and cities, while only slightly more than 1,400,000 persons moved from towns and cities to farms. Even with the great influx of immigrants in the period between 1910 and 1920 inclusive, a total of 6,347,461, the number of foreign-born white farm owners decreased from 669,556 in 1910, to 581,068 in 1920. These figures indicate that at least a part of the natural increase in rural population is moving into urban communities and that an increasingly smaller proportion of foreign immigrants is becoming farm owners. These data, however, are for the country as a whole instead of separate states, and subordinate the movement of population from towns and cities to the country.

In spite of the decrease in number of farms, in the acreage in farms, and in farm population, there is at the present time a troublesome surplus of several important staple products. In the face of this patent increased efficiency of the farmers and in the face of the competition for markets is an expansion of our agricultural area desirable? Whether it is desirable or not, a gradual expansion is taking place.

Since the early settlement of this country there has always been a movement of people to the land. Even in 1922, the year marking the greatest loss of farm population, nearly a million people moved from cities and towns to farms, and in 1924 nearly one and one-half millions moved to farms. The census shows that from 1920 to 1925, the period in which the total number of farms decreased by 76,080, there was an actual increase in the numbers of farms in 26 states, totaling 157,909, and an increase in acres of farm land in five states amounting to over 18,000,000 acres.

The present purpose is to examine existing state policies of dealing with the agricultural expansion which these data show. The conditions which have brought about this state of affairs and which, therefore, lie back of state policies will be touched upon briefly in another connection. The immediate objective is to summarize what the states are doing officially about the constant migration of people from city to country, with the consequent increase in the number of farms and in farming operations in certain areas.

Several courses of action are open to state legislators and administrators. They may leave this population alone; they may guide it, hasten it, retard it, or control it in some way for various

reasons. Generally speaking the conditions resulting from a haphazard *laissez faire* policy of land settlement have led a few of the states to attempt some forms of official activity and supervision. Many of the states have definite legal provisions and appropriations for attracting settlers by advertising the state's opportunities. A few help the settlers to select good locations and help them adjust themselves to their new surroundings. Some give financial assistance either to the settlers themselves or to the colonizing and land settlement companies. Some are attempting to collect and publish data on the soil conditions of the states. Some attempt, through various laws and regulations, to protect settlers from exploitation by land sellers and promoters. Some have attempted state-controlled group settlements, and one is experimenting with state-directed settlement on individual farms. A few are attempting to work out some relation between their reclamation policies and the use of the land. All these policies may perhaps be classified conveniently into three general groups: (1) Those that actively encourage settlers; (2) those that protect settlers without necessarily encouraging them directly; (3) those that control expansion.

I. Encouraging Settlers

The most obvious way of encouraging new settlers to come into a state is to give financial assistance either to private companies interested in attracting new farm settlers or to individual settlers.

Wisconsin has devised a policy for giving financial aid to private colonizing companies and, by means of this aid, keeping in close cooperation with them. This policy is authorized by the Wisconsin Farm Mortgage Association Law.[1]

Under this law any number of adult resident free holders of the state, not less than 15, may associate to establish a land mortgage association, with a total amount of capital stock not less than $20,000. The associations have usually been made up of colonizing companies and their stockholders. They are authorized to make loans on first mortgage upon improved and partially improved agricultural real estate up to 65% of the appraised value of the land, but the mortgages must be payable on the amortization plan, maturing in not less than 20 years. They may also purchase first mortgages against the same kind of land from persons or companies engaged in the settlement or colonization of Wisconsin lands, if the plan of settlement or colonization is approved by the Commissioner of Agriculture and if the lands are found by the Commissioner to be suitable for agricultural purposes and the terms and conditions of the loans are just and reasonable. The association may also issue bonds secured by these mortgages and not exceeding five times the capital stock of the association. When an association wishes to raise money by means of a bond issue, it deposits with the State Treasurer, as security for the bond, the individual mortgages up to the amount of the bond, which is then issued and sold under the rules of the State Banking Commission. Before the State Treasurer accepts these mortgages, every individual mortgage must be passed upon by the state director of immigration acting under the Commissioner of Agriculture. Field men from the Bureau of Immigration give personal attention to each tract offered as

[1] *Wisconsin Statutes*, 1921, Vol. II, chap. 98, S. 2024-100 to S. 2024-140.

collateral. To date the associations have guaranteed the interest and the amortization payments on the settlers' mortgages for a period of seven years.

The development and colonization companies, in order to benefit by this law, must work in close cooperation with the Bureau of Immigration and the State Banking Commission. They are enabled, through the sale of the bonds, to obtain ready capital with which to finance themselves and to reloan to the mortgagors for improvements and equipment. The companies are also held to an interest in the settler's progress, since the mortgage value of the settler supplies the security for the liquidation of the companies' credit.

Several large colonizing and settlement companies have taken advantage of the law, and approximately $1,200,000 worth of bonds have been issued on a security of over 600 mortgages. Because the state certifies the collateral behind every mortgage and requires the deposit of the mortgage with the State Treasurer, the bonds of the association have sold readily. It must, however, be clearly understood that these bonds are not state bonds and are not guaranteed by the state. They are bonds of the association, and the association is responsible for the payment of principal and interest.

Oregon and Washington have adopted policies for giving state aid to irrigation districts. In Oregon[2] the state guarantees the interest on irrigation district bonds for any one or all of the first five years of the life of the bonds. The guaranty involves an exhaustive investigation of the district and the supervision of all business and work of construction. The state, so far, has paid the interest for the entire first five years, for which it has taken certificates of indebtedness against the district. The certificates fall due the year after the last bond is retired.

In Washington the Director of Conservation and Development may purchase[3] with the state reclamation funds, the bonds of any properly organized and approved irrigation district. In order to take advantage of this bond sale, the districts must allow the director to supervise all contracts, all work, and all expenditures. To provide further for the welfare of the settlers and to protect the interests of the state, the director provides in the contract to take an option on all holdings above the legal size and fixes the price at which this land may be sold to settlers. The price of this land has been kept down to about $50 per acre, even though some of the land in the large holdings was purchased by the present holders at prices ranging upward to $200 per acre. This policy of the director has been effective in checking further speculation in irrigated land in these districts.

Individual Financial Assistance

Four states—Oregon, Minnesota, North Dakota, and South Dakota—loan state funds directly to settlers under their special rural credit acts. In all four states the funds are raised by bond issues. Oregon failed to secure purchasers under suitable terms for her last issue of bonds, and South Dakota was unable to meet the interest due on outstanding bonds and the affairs of the Rural Credit Board are being liquidated, after having loaned over $40,000,000 in first mortgages on agricultural real estate.

[2] Olson, *Laws of Oregon*, 1920, Vol. I, p. 175, art. xi-b, sec. 1-13.

[3] *Laws of 1923*, chap. 132.

In North Dakota the loans are made through the Bank of North Dakota. The loan department of the bank borrows from the bank the necessary amount to make the loans, for which it accepts first mortgages. The mortgages are deposited with the State Treasurer, and when the value amounts to $100,000 a bond is issued secured by the mortgages and the proceeds of the bond are used to refund the Bank of North Dakota. The amount of the outstanding bond issues must never exceed $25,000,000.

In Minnesota the amount of outstanding bonds must not exceed $40,000,000, unless a further bond issue is made possible by a special act of the legislature. In Oregon the amount of the bonds must not exceed 2% of the assessed valuation of all taxable property in the state. In North Dakota and Minnesota, if at any time there are not sufficient funds on hand to pay bonds or warrants or interest at maturity, a tax is levied on all taxable property in the state. In Minnesota the amount of this tax collection must be refunded to the state treasury out of the proceeds of the next bond issue.

The loans are granted to settlers for part payment on their land, for the purchase of equipment including necessary live stock, for buildings and other permanent improvements, and to liquidate indebtedness. In Minnesota the loan may be taken for part payment of the purchase price of the farm if the vendor will take a second mortgage for the unpaid remainder.

In Oregon loans are granted to 50% of the appraised value of the land; in North Dakota, to 50% of the appraised value of the land and 25% of the value of the insured permanent improvements; in Minnesota, to 60% of the value of the land and 31 1/3% of the improvements; and in South Dakota, to 70% of the land value and 40% of the value of the improvements. No loan is granted for less than $200 in Oregon, nor less than $500 in the other states, nor more than $5,000 in Oregon, $10,000 in North Dakota, and $15,000 in Minnesota. All loans are payable on the amortization plan. Oregon loans only on improved land, and Minnesota loans on improved and partially improved land.

The amounts loaned under these laws, up to November, 1923, were as follows: Oregon, $426,510 in 240 loans; South Dakota, $40,467,850 in 10,322 mortgages covering 2,676,461 acres; North Dakota, $7,000,000 in 4,500 loans; Minnesota had closed over 100 loans in the 5 months the law had been operating and had received applications for over $1,600,000 more.

Oregon, California, and South Dakota have adopted policies for loans to ex-service men who wish to purchase farms. A large number of states loan directly to farmers from their permanent school funds.

It is not within the scope of this paper to give the number of settlers that the states have gained or held by means of the various credit facilities furnished by the states. Probably the number directly due to the credit policies is not large. But it is likely that the number kept on their farms during periods of depression and the number given vital financial assistance in developing and improving their land has been large. North Dakota estimates that the state loans have been the means of keeping about 4,500 farmers on their farms, and Oklahoma estimates that about 12,000 renters have become farm owners through the help of loans from the permanent school funds.

The states that have enacted laws providing for loaning state funds on agricultural real estate are located, in nearly all cases, long distances from scources of easy credit and moderate interest rates. They also have comparatively small populations and large areas of unsettled land.

The systems are designed especially to promote home building and home owning. They provide for loans on easy terms, at the lowest possible rates of interest, without the necessity of renewal fees and commissions at stated intervals.

The loans, which in the aggregate make a large sum of money, kept within the local communities and used for farm equipment, improvements, or ownership, have had a strong influence in settling and developing the states and in increasing the taxable wealth within the commonwealths. It is safe to say that the state policies have acted as a lever to regulate interest rates and commissions charged by banks and private loaning companies and have influenced the adoption of a policy of leniency for delinquent payments.

The state loans resemble the Federal Farm loans but do not duplicate them. The Federal Farm loans are granted up to 50% of the appraised value of the land and 20% of the appraised value of the insured permanent improvements. In Wisconsin the amount of the loan under the Mortgage Association Law is 65% of the appraised value; Minnesota loans 60%; and South Dakota loans 70% under the State Rural Credit Laws. Wyoming loans 60% from the permanent school funds, and Oregon loans 75% from the soldiers' bonus fund. No state loan, except under the Wisconsin Mortgage Association, requires a local association of borrowers; neither are the borrowers required under the state laws to purchase any stock in the loan fund. Many of the borrowers regard these two points as advantages over the Federal Farm loans.

The policy of loaning state funds to settlers is one step in the solution of the vital problem of financing the man of small means who undertakes to develop a farm from raw land. Since practically all pioneering is done by men of small means, the problem is a serious one.

A great many states encourage settlers indirectly by maintaining a Bureau of Immigration which furnishes information, copies of soil surveys, and so forth. Some state bureaus of this character are more active than others, and some, too, have for their objective the protection of settlers more than their encouragement.

II. Protecting Buyers

Many states, realizing the exposed position of some buyers in the hands of unscrupulous farm land dealers, have taken steps to provide some protection for prospective farm settlers. The use of soil surveys is one obvious device frequently used. The Michigan land certification law and various real estate license laws are other methods followed. The Michigan Land Certification policy provides for land classification and for the protection of settlers. In carrying out this policy, the state cooperates with owners of large tracts of undeveloped agricultural land through the Land Certification Act.[5]

By this law settlers are protected against the purchase of worthless or low-grade land, and landowners are assisted to select for farm develop-

[5] Act 292, Public Acts of 1923.

ments only agricultural lands. The state Department of Agriculture contracts with private owners to certify their lands for agricultural development after the department has surveyed and reported upon the land. The department is authorized to supervise and carry out all the details in connection with the execution of the act and to make all necessary regulations.

Examiners to certify the land are selected by the department and must have had four years' college work, four years of farm experience, and one year in practical field survey work in the Lake states; they must be approved by a board consisting of the State Geologist, the Dean of the Michigan Agricultural College, and the Commissioner of Agriculture. The examiners report on the land after a field examination supervised and checked by the department.

The certification issued by the state is based on the reports and the examinations of the appraisers and the Department. It includes a map of the area in 40-acre units, showing location, topography in general, all soil types, where soil borings were made, location of streams, lakes and economic phases as roads, shipping points, and such information as will give the prospective settler a fair basis for judging the agricultural possibilities of the area. It also includes a plan of farm management for the area.

The original report is filed in the state Department of Agriculture, and the dealer is supplied with one copy and may purchase, at cost, duplicates from the state department. A copy of the certification and the official statement is filed in the office of the registrar of deeds of the county in which the land is located, together with such maps and plans as may be of benefit to the public, all of which is open to the public. The official statement and certification must be shown in full to the person buying or contracting, prior to the execution of any contract involving lands included in the act. A certified copy of the certification and map must be attached to each deed or contract of the purchaser.

Land certification is optional and all expenses incurred are borne by the landowners. It is the policy of the state Department of Agriculture to induce as many dealers as possible to have their land certified and to agree to confine their selling of unimproved land in Michigan to certified lands. As the accredited list is built up, the dealers and the land they sell are given as much publicity as the department can give, and the buying public is informed that these dealers sell only land which has been certified by the state. In this way they hope to induce practically all holders of tracts of undeveloped land to have their holdings certified, if they wish to sell for agriculture.

At the end of January, 1925, six dealers had contracted with the state, their lands had been certified, and their names placed on the accredited list. The six holdings comprised an area of 33,087 acres, and the work of certification cost an average of 18 cents per acre.

Nebraska exercises some control over the sale of foreign real estate within the state through her foreign realty act. Missouri, Kansas, and Oklahoma have legal authority to control the sale of land under their speculative security acts, and 16 states have real estate licensing laws. In Wisconsin, Oregon, New Jersey, Utah, Michigan, Illinois, and California, the boards for licensing real estate dealers have inaugurated policies for administering the

law which make it a protective measure for purchases. The boards take pains to let the public know that they are in existence for the public's benefit, and that complaints may be registered with the boards for investigation and adjustments.

III. Controlled Expansion

Among the states which exercise even more direct control of agricultural expansion, the policies may be approximately classified into three groups: (1) State-controlled group settlements; (2) state-directed individual settlements; (3) the Michigan Land Economic Survey.

State policies operating to settle land according to a fixed plan have been embodied in provisions for State Land Settlement Boards. California, Colorado, Oregon, North and South Carolina, South Dakota, and Washington have land settlement boards. Settlers have been established under state supervision in California, Washington, Oregon, and South Dakota. Under the state laws the states may acquire undeveloped areas suitable for settlement either from private owners or from state, school, or granted lands, or they may subdivide any available state land suitable for the purpose. Any land acquired may be subdivided into farms or laborers' allotments after tracts for public purposes have been set aside. The states may make such improvements as may be necessary to render the tracts habitable and productive and may sell or lease them to settlers. They may make any rules and regulations necessary for establishing and managing the settlements.

Funds for carrying out the intent of the law are provided by bond issues in California, from the reclamation fund in Washington, by a loan of $1,000,000 from the state in South Dakota, and by a direct appropriation in Oregon.

The state tried to fix the selling price of the farms to the settlers at a figure calculated to return to the state the original cost of the land and all expenses and costs of surveying, improving, subdividing, and selling it. The selling price was made to include interest costs on money advanced by the states, costs of engineering, superintendence, and administration; the cost of operating any works built, directly chargeable to the land, and the price of the land that had been used for roads and other public purposes; as well as a sum to meet unforeseen contingencies.

The boards were authorized to demand certain requirements in physical and mental fitness and cash assets in the settlers. The tracts of land were sold to the settlers on very easy terms, and the boards supplied loans up to a fixed limit for purchasing live stock and equipment and for operating expenses to settlers who needed financial assistance.

California established two group settlements, one at Durham and one at Delhi, and Washington established one at White-Bluffs Hanford. In South Dakota the board has purchased in Todd County 10 quarter-sections of land, and plans to develop on this tract a group settlement similar to the California State Settlement at Durham. The plans are held in abeyance because of the agricultural depression.

Colorado's board has never been operative because of lack of appropriation to carry out the intent of the law, but the state officials asserted that the

idea was only dormant and would be revived as soon as a movement of settlers toward the land warranted it.

The achievements of the land settlement commissions in North Carolina and South Carolina to date have been limited to tours of inspection to various western and northern states to study land settlement policies; investigations of tenancy conditions and land utilization at home; and reports embodying suggested legislation to the state legislatures and governors.

In the reports the commissions recommended the establishment of state-controlled group settlements or colonies and the provision for financial assistance to settlers and colonizing agencies modeled after the Wisconsin Mortgage Association Act. In North Carolina the commission recommended that there be no further development or reclamation by the state of idle lands not suited to immediate agricultural purposes.

In Washington and in California the state authority in charge of land settlement may, in addition to administering its own settlement projects, upon request of any land settlement or colonization company operating in the state, make an examination; and if the investigation warrants, certify to the following conditions in reference to the company and its projects: (1) suitability of the land for agriculture; (2) feasibility of its economic location as to markets, and the like; (3) proposed plan of settlement in reference to (*a*) price of land, (*b*) financial aid to be given to settlers, and (*c*) terms of payment. This certification is to be at the expense of the company asking for it. Up to the present time no private companies have enlisted the aid of the director in developing their enterprises. The California board may give its assistance to coordinate existing colonizing activities, as far as they relate to irrigable areas, and arrange to bring to new farming communities the benefit of an organized life.

The outcome of the state-directed colonies in California and Washington and of similar colonies in other countries illustrates the fact that a plan of colonization that may succeed in some places may show unsatisfactory results in another. The popular mind is easily caught by the dramatic appeal of the hardships of isolation on the frontier, resulting in loneliness, lack of schools, lack of social intercourse, and lack of refining influences in the home. Any scheme or plan that could eliminate these hardships and supply in their place organized social opportunities, good schools, roads, and expert direction in adjusting the settlers to their new surroundings has had a great appeal for many people. State-directed group settlements seemed to be a solution to the problem, and sometimes they have succeeded. But the opportunities for political and economic difficulties are numerous. For safe development, there must always be a reasonable ratio between the expenditures of a community and its income. The productive value of partially improved farms is, of necessity, below the ultimate possibilities of the land after it has all been improved and fully equipped. Settlers usually come to a new region with barely sufficient capital to make a beginning on their own land, and have no margin for heavy taxes for public utilities. No one disputes the desirability of good schools, good roads, expert supervision, and so forth, but pioneer communities rarely have the taxable wealth to pay for them. In some cases of group settlements, the costs of public utilities of various kinds

are added to the purchase price of the land and the owner is usually unable to make the farm pay for itself under these circumstances. In others, they have been paid for by loans from the state treasury but when the loans fell due the colonists were not able to meet the payments of principal and interest out of returns from their land. Economic difficulties are not confined to the inability of the colony to pay for public utilities. There are numerous opportunities for misjudgment in selecting the land, determining the size of the settlement, determining the mode of development, setting up the financial plan, and selecting settlers.

The settler who makes an individual attempt to subdue a farm and fails, pays for his own mistake, drops out of sight, and is forgotten. In a closely organized group the failures must be carried by the community. The conditions of competition in agriculture are such that in the best of farming regions a large proportion of the farmers fail to earn a moderate rate of interest on the invested capital, and farm income fluctuates from year to year. In an organized supervised group this condition operates to lower the general level of the entire group.

The 1919 Legislature of Oregon established the Land Settlement Commission and appropriated $50,000 to carry out the provisions of the act. The Commission appointed as its superintendent the head of the department of farm management in the State College of Agriculture. The superintendent and the Commission adopted the following plan of settlement which they are now working out and perfecting. Units of land, each suitable for a different type of farming, were selected in different parts of the state. The farm management section of the college surveys the land in each unit and plans its best use. The farm is then improved with a dwelling house with modern conveniences, with barns, bins, hog and poultry houses, fences, and so forth, built according to plans furnished by the college. In the present experimental stage the Commission operates the farm until the improvements and equipment are complete and until the farm is a going concern on a paying basis. When the farm has been made into a business unit, is completely equipped, and yields a profit on its operation, it is offered for sale.

The purchaser pays down what he has or what he can spare from his capital, gets a Federal Farm loan which he applies on the purchase, and the state takes a second mortgage for the remainder due on the farm. The sale contract contains a clause to the effect that for a certain number of years the purchaser will keep in touch with the College of Agriculture and the Land Settlement Commission and conduct his farm somewhat in the nature of a demonstration.

The Commission used the $50,000 appropriated to it by the legislature to purchase and operate four farms according to its plans. Even during the agricultural depression these farms were operated at a profit. One of them has already been sold. When the other three have been made ready and sold, the money will be used to carry out the experiment on other units of land.

When the plan is fully worked out and demonstrated, the legislature will be asked for an appropriation sufficient to put it into operation on a scale that will add materially to the number of farmers in the state. The Commission does not contemplate the necessity of operating for a stated period every

individual farm when the policy has been developed on a large scale. When the farm has been surveyed and equipped and the plan of operation decided upon for that type of farm, the Commission will be reasonably sure of its successful operation.

The Oregon plan does not provide for the settler with a very limited amount of capital. The state has practically eliminated the pioneer period, and the purchaser starts out with a farm that represents a high capital investment. It is the intention of the Commission to attract farmers with wealth enough to start with such farms.

The work of the Commission is in an experimental stage and will be carefully guarded against publicity and advertising until the results are reasonably sure.

The policy involves some of the fundamental principles of successful agricultural settlement. The land best suited physically and agriculturally is selected, and its best utilization is tried out. Successful settlers are selected and are given such assistance and good advice as will help them to establish themselves on the farms.

Michigan Land Economic Survey

Michigan has taken two advanced steps in formulating a land policy. They apply the principles of land classification and of guarding settlers against the purchase of worthless land. The latter policy, embodied in the land certification law, has been described previously.

The Michigan Land Economic Survey is a division of the State Department of Conservation. It is making a survey of the underdeveloped counties in the northern part of the Lower Peninsula and in selected counties in the Upper Peninsula and hopes eventually to cover the entire state. The county is the unit of the survey, and the state pays all expenses. The work is done in cooperation with the Soils Department of the Michigan Agricultural College, with the United States Lake States Forest Experiment Station, and with other state institutions.[6] The survey includes an inventory of all natural resources, comprising soil, timber or forest cover, water power and water storage, recreation facilities, wild life, minerals, and stones. Facts pertaining to land economics are indicated and the agricultural history of the region is shown as far as possible. About 2,000,000 acres had been covered prior to the field work of the summer of 1925, and the cost of the field work has run less than 5 cents an acre. When the records, maps, and reports are completed and made available for distribution they will supply a complete classification of the land and will indicate all that may be used for agricultural development. To make practical use of the survey in controlling land development, it is necessary to induce state and county officials and private owners and prospective owners to adjust their plans of land utilization to the facts shown by the survey data. The survey makes possible more intelligent planning of land uses and gives the basis for formulating sound policies of controlling agricultural expansion.

Many states have adopted policies to keep non-agricultural land out of the market for agricultural land and are attempting to use this land for forests, for hunting preserves, for game-breeding grounds and refuges, and for

[6] For a description of the work of the Survey, see P. S. Lovejoy, "Theory and Practice of Land Classification," JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS, April, 1925.

recreational uses. Through the Land Economic Survey, Michigan has better information than most states have to form desirable policies of this kind.

Any directed and controlled expansion of the agricultural area is complicated by the relatively large areas of cut-over land that are thrown on the market every year. It is a burden on the hands of the owners and their policy is to get out from under the carrying charges as soon as possible. Many states are working to evolve a policy of taxation, fire protection, and reforestation that will enable the owners to hold their land and operate it for timber production. Pennsylvania, New York, Michigan, Louisiana, and Alabama are among the leaders in trying to solve their forestry problems.

The policies discussed above, including the regulation of settlement and financial aid to private companies as practiced in Wisconsin, and to a lesser extent in Oregon and Washington; granting financial aid direct to farmers under the rural credit laws and from state funds; land classification as carried out by the Michigan Land Economic Survey; the protection of settlers from exploitation by means of land certification as in Michigan, licensing real estate dealers and regulating the sale of speculative securities; the utilization for purposes other than agriculture of non-agricultural lands as administered in the states with progressive forestry and conservation laws; and state-directed settlements either in groups or on individual farms are, at present, the outstanding activities of individual states.

IV. Outlines of the Problem

Many of these policies were adopted years ago when economic conditions were different from what they are now. At that time, and even today in some localities, such conditions as the disappearance of free land of good quality, the difficulties in attracting settlers to the land, and the large capital requirements necessary to begin farming, brought the states face to face with the problem of attempting to supervise this expansion.

The states are not confronted with the question of a supply of land. We have an area of over 300,000,000 acres of land that may be used for agriculture after more or less extensive reclamation by irrigation, by clearing, or by draining, and an area of larger extent of low-grade semiarid land suitable for grazing. The land-supply phase of the question resolves itself principally into the question of how to get the land ready to cultivate at a cost commensurate with its productive value after reclamation.

The sparsely settled states and communities always want an increase in population. They look forward to an "optimum density" of population when all the resources of the state will be developed. They are likely to consider it the patriotic duty of officials and citizens to induce settlers to move to the state. They are not usually in a position to consider the effect of their own expansion on the national agricultural outlook, nor on the relation of agricultural development to industrial and financial development. This attitude of mind must be reckoned with.

Yet the problem is more than one of maintaining an economic balance between agriculture as a whole and other channels of production. It is essential to consider the annual migrations of people from country to city and *vice versa*. Each year a million or more persons leave farming pursuits for the

city, and each year a substantial number go from city to country. How is this stream of people back and forth—the drainage of the rural population and the back-wash of city folk—going to be guided and controlled in the best interests of agriculture and the nation as a whole? This is a task involving not only the balance between agriculture and other industries, but also a balance between different lines of agricultural enterprise as well as between country and city population migrations. Even though agriculture as a whole seems to be contracting, problems of intra-agricultural adjustment and population adjustment will remain. For there are still great numbers of country people who do not find their proper niche in the cities and after a while drift back to the country, just as there are numbers of both new and old farm settlers who fail and return to the cities. This process involves study from both ends; the placement of the rural surplus in city occupations as well as the placement of city workers on farms, which is the problem that is in part considered here.

Need of Cooperation in a Comprehensive Land Policy

None of the states has gone as far as it has constitutional authority to go in controlling the sale and settlement of its idle or underdeveloped lands in view of the above considerations. Moreover, the Federal Government has developed no comprehensive policy applicable to all classes of land.

It seems probable that the time will soon come when federal and state policies must be developed to regulate and control the reclamation and the expansion of the agricultural area and the distribution of settlers in selected regions under conditions that offer reasonable social and economic opportunities for the settlers themselves and that do not threaten to throw agriculture out of economic adjustment with other industries.

The interrelation and interdependence of uses of land are such that a sound land policy must be well rounded and inclusive. The various requirements of, and adequate provision for, forest production, crop production and grazing, protection of game and fish, recreational facilities on public lands, drainage, power development, and so forth, should be mutually considered.

This new land policy must be developed jointly by the Federal Government and the states working in cooperation. Neither the one agency nor the other alone can effectively develop an adequate policy. The states, on the one hand, have much more adequate constitutional powers for dealing directly with various problems connected with private property in land than has the Federal Government. They are closer to local conditions and frequently more capable of dealing effectively with the varied circumstances existing in different localities.

On the other hand, the Federal Government still controls a public domain of vast extent, including the National Forests and National Parks. It legislates with reference to immigration, and is in a stronger position than the individual states for dealing with the various problems arising from interstate migration, and the interstate sale of land. Through the tariff policy and control of railway rates it may exert an important influence on the margins of agricultural development, both national and local. Through its road building program, improvement of navigable waters, and its already developed

reclamation policies, it is in a position to determine to some extent the direction of development. Through the research and extension facilities of the Department of Agriculture it may, jointly with the states, exert an important educational influence. Finally the Federal Government is in a position to view the land problem from the broader outlook of the nation as a whole, while the states tend to reflect the influence of local interests, which may seek an undue development at the expense of other localities.

No adequate, well-rounded policy has yet been evolved by either state or federal governments, but the existence of a problem in land policy is beginning to be recognized, and the policies discussed above are the result of that recognition which may yield good results in the years to come.

THE AMORTIZATION OF DISCOUNT, PREMIUM, AND EXPENSES ON FUNDED DEBT OF PUBLIC UTILITIES

By JOHN H. BICKLEY

THE uniform classifications of accounts prescribed by the Interstate Commerce Commission and state utility commissions constitute one of the most essential measures in public service company regulation and have produced salutary results. When a comparison is made of the accounts and statements of utilities prior to the beginning of this form of government control with the complete and well-organized records of today, we must recognize the contribution made by the uniform classifications. Early in the history of public control over steam railways and other public service enterprises, it was realized that regulation must be founded upon an accurate knowledge of business operations as shown by the corporate accounts; and that these accounts, in order to be serviceable as a guide to regulation, must be standardized for all companies engaged in the same kind of business. One end in view was a comparison of the operations and financial condition of different companies.

But it was doubtless seen then, as it is now by those who have attempted to make studies of utilities from the reports which are filed with regulatory commissions, that the uniformity is not complete and that a comparative analysis is subject to many adjustments and corrections. The case of depreciation alone need be cited. The variety of concepts bearing upon this subject and the different methods used in measuring and recording depreciation seriously militate against the reliability of figures and ratios influenced by this factor. So uncertain have been the determining elements and so little has been known concerning them that commissions have not specified any rates for general application.

Some events which the accountant is called upon to record cannot be measured with mathematical accuracy; and, further, some discretion must be allowed the accounting officers of individual corporations in the method of expressing in debit and credit form the nature of certain transactions. On the other hand, there are events, susceptible of precise measurement, which should be recorded in a definitely prescribed manner, but in which, unfortunately, some classifications allow an option. If an alternative method were in conformity with sound principles and if expediency demanded that it be permitted, the resulting lack of uniformity and the difficulties in making comparisons could be accepted as necessary. But if an alternative method is in violation of accurate accounting, and if it makes possible an obscurity of figures, it is at once evident that the option serves no desirable purpose and should not be allowed.

Prescribed Methods of Amortization

A striking example of the latter condition is found in the balance-sheet accounts, debt discount and debt pre-

mium, of the Interstate Commerce Commission classifications, as well as those of some state commissions. The section of these accounts which leads to obscurity and to the destruction of a comparable basis with respect to interest costs and the net investment of bondholders is that which permits the extinguishment, at any time, of all or any portion of the unamortized discount or premium by charges or credits to surplus. The classifications of the Interstate Commerce Commission contain special instructions pertaining to general balance-sheet accounts. In section 3 may be found the following provision, which defines the methods of writing off discount and premium on funded debt:

> Each month there shall be charged to income account "Amortization of Discount on Funded Debt" a proportion (based upon the ratio of such fiscal period to the remaining life of the respective securities) of each of the debit balances in these accounts, and correspondingly there shall be credited to income account "Release of Premiums on Funded Debt" a similar proportion of each of the credit balances in these accounts. *Carriers are allowed the option of extinguishing at any time, through charges to Profit and Loss, all or any portion of the debit balances remaining in any of these accounts and of deferring the extinguishment of credit balances until the maturity of the obligations represented.*[1]

The uniform classifications prescribed by the Public Service Commission of Pennsylvania and of several other states offer the same option. The account "Unamortized Debt Discount and Expense" in the Pennsylvania classifications reads as follows:

> At or before the close of each fiscal period, credit to this account and charge to "708, Amortization of Debt and Discount and Expense" account, or to "296, Interest during Construction" account, as provided therein, a proportion of such discount and expense based upon the life of such evidences of indebtedness to date of maturity. *Such discount and expense may, if desired, be amortized more rapidly through charges of all or any part of it, either at the time of issue or later, to "811, Other Deductions from Surplus" account.*[2]

The "Unamortized Premium on Debt" account provides that "at its option, the utility may delay making any charges to this account until the date of maturity of such debt or, if it is retired before maturity, until the date of retirement."

It is gratifying to observe that the Federal Power Commission does not, in its "System of Accounts Prescribed for Licensees under the Federal Water Power Act," allow the option of arbitrarily extinguishing either discount or premium. The Federal Power Classification was promulgated in 1922, eight years after the present classification of the Interstate Commerce Commission for steam railways, and reflects experienced consideration of this accounting question.

In extinguishing debt discount, several methods may be followed by utilities in those jurisdictions in which there is the option of writing off the discount without reference to the unexpired life of the obligations:

1. Amortization on a straight-line basis over the life of the debt;
2. Interest amortization, sometimes referred to as "scientific" amortization;
3. The charging off of all discount to surplus during the year in which the securities are issued;
4. The charging off of the discount arbitrarily according to the amount of corporate surplus from year to year;
5. Postponement of all charges until the year in which the debt is retired.

The options with respect to premium on funded debt are not so clear, the only

[1] Italics mine.

[2] Classification of accounts of Electric Utilities, Pennsylvania. Italics mine.

statement in the Interstate Commerce Commission classifications being that carriers may defer "the extinguishment of credit balances until the maturity of the obligations represented." This has been interpreted by some of the larger steam railway systems to permit an arbitrary writing off of premium to surplus, and, if desired by the steam railway, the crediting of surplus with the full amount of the premium during the year in which the securities are marketed. It is understood that the premium must first be recorded in the "Premium on Funded Debt" account, and thence credited to surplus. The result of this construction is that the same methods as those used for discount may be followed in extinguishing premium.

Meaning of Debt Discount and Premium and Reasons for Periodic Amortization

A consideration of the fundamental accounting and financial aspects of discount and premium brings into clear perspective the necessity of periodic amortization, and emphasizes the reasons for making this procedure mandatory from the standpoint of public regulation.

The definitions of debt discount and premium as given in the Interstate Commerce Commission classifications are sufficient to explain how they are measured arithmetically.

By the term *discount* is meant the excess of the par value of funded-debt securities issued or assumed, and the accrued interest thereon, over the actual cash value of the consideration received for such securities. By the term *premium* is meant the excess of the actual cash value of the consideration received for funded-debt securities issued or assumed over the par value of such securities and the accrued interest thereon.

Thus, if a bond having a par value of $1,000 is sold for $900, the discount (assuming there is no accrued interest) is $100; and, if sold for $1,100, the premium is $100.

While the above definitions explain how discount and premium are measured, they do not explain their basic significance in determining the financial condition and the fixed charges of an enterprise. It is aimed, herein, to set forth the reasons for, and the economic meaning of, these elements and to demonstrate why periodic amortization on either a straight-line or a scientific basis is the only correct method of extinguishing them.

Bond discount is incurred because the nominal, or cash, rate of interest stipulated in the bond is less than the rate of interest demanded by buyers, at a given time, for the income and property security offered by the issuing corporation and in consideration for an investment in bonds having certain provisions and qualities. If bonds carry a nominal interest rate of 5% and if the market demands a return of 5½%, the securities must be sold at a price sufficiently below par to yield the higher return. On the other hand, if the bonds stipulate 5½% and the market asks only 5%, the obligations can be issued at a price above par that will bring the actual yield to the investor down to 5%. In brief, premium and discount are products of the relation between the nominal rate of interest and the rate demanded by the market at a certain time. Hypothetically, two companies may be identically the same and offer the same security for principal and interest, but the bonds of one may have been written with a nominal rate of 5% and those of the other with a rate of 6%. If the market calls for 5½%, the obligations

of the first company will be issued below par and those of the second will be sold above par. But in either case, the actual interest cost to the corporation will be approximately 5½%, under the assumption that both issues run the same period of time. This simple distinction is to be remembered in considering the method of extinguishing discount and premium and in measuring interest charges from year to year.

Discount may be defined as deferred interest which accrues to interest during the life of the debt. During each interest period in which the bonds are outstanding, a portion of the discount becomes a part of the actual interest cost for that period. This is the importance of discount from the standpoint of the fixed charges of an enterprise. From the point of view of the balance sheet, the unamortized discount is to be deducted from the par value of the bonds outstanding, in order to determine the actual investment of the bondholders in the business at a given time.

The total interest cost of borrowed funds may be measured as the difference between the amount received by the borrower and the total amount which he pays, including the principal at maturity. In the case of a $1,000 bond sold for $900, maturing in 30 years, and bearing a nominal interest rate of 5%, what will be the total interest cost? During each of the 30 years, the debtor will pay $50, or a total of $1,500 during the life of the bond. At the end of the 30 years, the principal of $1,000 is paid. The total payments, therefore, amount to $2,500 for the use of $900. By this process, the total interest cost is found to be the difference between $2,500 and $900, or $1,600, in contrast to the $1,500 cash interest paid at the rate of 5% a year. The amount $1,600 is the actual interest cost to be distributed over the 30-year period.

It is evident that the discount of $100 is just as much a part of the interest cost as the cash interest paid annually or semiannually. An accurate statement of the interest cost of any period during the life of the bonds can be obtained only by prorating the $100 discount over the 30 years. If, during any interest period, a portion of the $100 is not written off as an additional interest charge, that charge is understated. The mathematically correct portion of the discount to be charged as interest during any period is susceptible of measurement, but the principles involved do not come within the scope and purpose of this article.

In defining the total interest cost as the difference between the total amount paid (cash interest and principal) and the amount received, allowance is made for the redemption of bonds at a premium before the date of maturity. A $1,000 bond maturing in 30 years may be redeemable at the end of 20 years at a premium of 10%. If actually redeemed at that time and price, the total interest cost would be $1,100. This is found by adding the redemption price of $1,100 and the cash interest paid, amounting to 5% for 20 years, or $1,000, and deducting the $1,000 received, under the assumption that the bond was sold at par. If it were possible to predetermine, at the time of issue, that the bond would be retired at the end of 20 years, a proper prorating of the interest cost would demand an accumulation of the $100 premium by an additional charge for interest. A forecast of this kind, however, is impossible. Obviously, if the issuing company knew that at the

end of 20 years it would call the bond, it would limit the life of the obligation to that period and would save the extra $100. For this reason, a charge for the premium must be deferred until the bond is retired and then be charged to surplus.

A similar problem is encountered when bonds, issued at a discount, are redeemable at par before maturity. Should the discount be extinguished between the date of issue and the date of maturity or between the date of issue and the time the bonds may be called? If we reason from the foregoing case, the longer period must be accepted as the period of amortization; and, in the event the bonds are redeemed, the unamortized discount, at the time of redemption, must be treated as a surplus charge.

Perhaps the clearer way to visualize the balance-sheet significance of bond discount is to view it from the standpoint of the investor. An individual pays $900 for a 5% bond having a par value of $1,000, maturing in 30 years. He invests $900; but, if he holds the bond until its maturity, he will receive $1,000. This means that his capital increases to $1,000. But does the enhancement occur in one year, or in one day—the day on which the $1,000 face of the bond is received? It is evident that the additional $100 has been accruing throughout the 30 years, and that each year in which the investor received a cash interest payment of $50, a portion of the discount accrued as income. As the portion of discount is not received from year to year, it accumulates as an addition to his investment interest in the corporation.

Consequently the same enhancement in the interest of the bondholder must be recorded on the books of the issuing corporation. This is done by writing off each year a fraction of the debt discount, until at the maturity of the debt all of the discount will have been extinguished and the interest of the bondholder will be shown by the books to be the par value of the bond.

In an arithmetical sense, *premium* has been defined as the excess of the sales price of bonds over their par value. Financially, *premium* is principal which is returned by the borrower to the creditor over the life of the debt. Thus, if a 30-year bond is sold for $1,100, the corporation has the use of this sum, for which it pays $50 cash interest each year. The individual who invests the $1,100 will, at the end of 30 years, receive as payment for the retirement of the bond only $1,000. Has he lost $100, as it might appear? The decline from his investment of $1,100 to his receipt of $1,000 at the retirement of the security has not occurred in one year, but has been taking place over the entire period of 30 years. An accurate accounting for the investor's funds would call for his setting aside each year, from the $50 cash interest received, a certain amount which will keep intact his principal of $1,100, so that at the maturity of the bond he will have $100 reserved from the interest as a gradual return of that part of his principal. It is manifest, also, that he does not receive the nominal interest of 5%, because his return is $50 on a commitment of $1,100.

The corporation paying the $50 interest does not incur a cost of 5%, because it enjoys the use of $1,100 invested by the bondholder. A portion of the $50 represents a return of principal and a reduction of the creditor's investment. This reduction of the creditor's interest continues until at the end of 30 years

the book value of the bond is equal to its par value, the amount which the corporation pays to retire the obligation. Each year the interest cost is less than the $50 cash paid to the extent of the amount of principal returned to the bondholder. By referring again to the calculation of interest as the difference between the amount received and the amount paid, we find that the company pays, during 30 years, a total of $1,500 as nominal interest, and at the expiration of this time it pays the par of $1,000, a total of $2,500. As the amount received was $1,100, the interest cost, instead of having been $1,500, was only $1,400.

Methods of Amortizing Bond Discount and Premiums

Having examined the meaning and nature of bond discount and premium, we may turn to a further consideration of the methods of amortizing them. At this point, it is submitted as essential in the accounting regulation of public utilities that the balance sheet reflect, as precisely as possible, the investment interest of creditors and stockholders, and that the income statement present the actual interest cost on borrowed funds. If a corporation follows the practice (which has already been referred to as an objectionable method, permitted by the Interstate Commerce Commission and several state commissions) of writing off discount and premium arbitrarily according to the corporate surplus, the balance sheet would not reveal a true picture nor would the income statement tell an accurate story.

When a corporation follows the policy of charging off the entire discount on an issue against surplus in the year in which the securities are sold, three serious accounting and financial evils result. In the first place, the interest costs on the borrowed funds are thereafter understated because each interest period is not burdened with its proper share of the discount. Second, all of the discount having been retired prematurely, there is nothing to show from year to year the investment interest of the bondholders. As a concomitant of the second condition, the discount having been charged against surplus, the latter is unduly reduced, with a resulting understatement of the net worth of the stockholders. The last point is significant and demands further comment. An interesting and important section of the balance sheet of any corporation is the accumulated surplus retained in the business. This applies particularly to public utilities because of the wide-spread holding of their securities and because of the interest of the public as patrons. Stockholders, creditors, and consumers want to know the extent to which corporate assets have been accumulated out of earnings as indicated by the corporate surplus and proprietary reserves. An arbitrary reduction of surplus has the effect of concealing earnings and understating net worth. Here is seen the undesirable effect of a lump-sum amortization of bond discount.

In addition to the above effects, the difficulty of making a reliable comparison of utilities is accentuated. The prosperous company can afford to write off the discount immediately after it is incurred; and, since the operation is only a book entry, nothing is subtracted from the productive assets. A weaker company with but a small surplus cannot absorb the discount so quickly. As a consequence, the balance sheets and

the income and surplus statements are impaired in value, and any effort to measure the relative strength and success of the two enterprises is hindered by the policy with respect to discount. To place the statements on a comparable basis, it is at times necessary to review the corporate records for years and adjust surplus and discount. This is a task of considerable proportions and can be accomplished only when all information is available and not lost in corporate history.

A single illustration will serve to emphasize the influence on corporate statements of arbitrarily amortizing bond discount. On December 31, 1922, a utility reported a corporate surplus unappropriated of $3,556,247.80, and on December 31, 1923, the surplus had increased to $4,373,393.78. The debit side of the balance sheet showed that on December 31, 1922, there was an unamortized debt discount and expense of $2,096,438.21. Nothing appeared for this item at the close of 1923, because the full amount of the discount and expense was charged off during that year. As a result, the surplus and net worth on December 31, 1923, were understated to the extent of approximately $2,000,000. This concealed the important fact that the net assets of the business had increased out of profits in one year about $2,000,000 more than was shown by the balance sheet.

The evils of arbitrarily extinguishing bond premium are no less serious than the arbitrary treatment of discount, and the dangers of permitting a public service enterprise to write off premium in such a manner as not to record the accurate interest cost are twofold. The practice may be equally advantageous to both strong and weak corporations. The former, by immediately crediting surplus with the full amount of the premium, overstates its net worth; but, because the premium is not thereafter amortized by a reduction of interest charges, the periodical interest cost to the corporation is inflated. This treatment of premium is a two-edged sword, and it may be used to inflate surplus at a time when the business is in a precarious financial condition. Bankers and skilled investors probably would not be misled by such manipulations, but the general public, to whom a direct appeal might be made for funds, might gain an erroneous impression of the prosperity of the business. It is entirely within the range of possibility that a utility, during a period of efficient management and large profits, would issue its bonds at a premium. Subsequently, there might be a change in management, and assets might be dissipated. To bolster the corporate surplus, the premium could be credited to surplus and the latter thereby inflated. What is more important, there would be an erroneous showing of accumulated profits. The net worth, or proprietorship, would be artificially increased without the addition of a dollar to the assets and without the liabilities being reduced. This alone is sufficient to demand the proper amortization of premium over the life of the securities by a reduction of interest costs to evidence the return of principal.

No additional argument should be needed to demonstrate that accounting methods which so readily lend themselves to altering the statements of financial condition and fixed charges should not be permitted in a classification designed to facilitate public control through corporate records. However, there is another feature of the question of amortization which may call for par-

ticular attention in the future and even today. As prices tend to become stabilized, we may recognize the weight of the arguments presented by Mr. Justice Brandeis, in *Missouri ex rel. Southwestern Bell Telephone Co.* v. *Public Service Commission of Missouri,*[3] in support of prudent investment as the basis of a fair return to utilities. The method which he describes for measuring the adequacy of the return places unprecedented emphasis upon interest costs.[4]

Defenses of Arbitrary Amortization

In defense of the practice of charging off discount as rapidly as it can be absorbed by surplus, the argument of conservatism is invariably advanced. The value of a conservative balance sheet is not to be denied; but when pushed to an absurdity and to a point where it is in conflict with accounting fundamentals, the usefulness of the statement is seriously impaired. The advantages of knowing the actual interest costs, the correct surplus, and the investment of bondholders more than compensate for any gain to be derived from arbitrarily extinguishing either discount or premium.

It is sometimes contended that, because discount has no realizable cash value, bankers prefer that this item be eliminated from the balance sheet. It is conceded that such value does not attach to discount; but, if bankers wish to reduce net worth to the extent of the discount, they can easily do so. The discount is shown, and it is a simple and short problem in arithmetic to subtract one figure from another. The important fact is that, if discount is scientifically amortized, the banker can see without further inquiry the amount by which earned surplus must be reduced to absorb a capitalization item which affects future interest costs. There is no obscurity and no distortion. Furthermore, if the banker is valuing items on the basis of realizable cash value, he is not appraising a going-concern and would be required, by the same reasoning, to make deductions from other amounts carried on the asset side of the balance sheet. In this connection, it may be observed that bankers in recording their long-term investments are meticulous in amortizing both discount and premium according to the principles of interest. Their methods are more accurate than those required by any classification prescribed for public utilities. Insurance companies, which are equally conservative, amortize on a compound-interest basis, and there is no general insistence that the premium paid for securities be immediately charged against surplus. Why, then, should the issuing corporation, under the guise of conservatism, follow one practice and the institutions which should be characterized by conservative principles follow a different method?

Problems of Amortization

There are several problems, arising in connection with the amortization of debt discount and premium, that may be commented upon briefly. The first is the amortization of discount or premium on bonds having no stipulated date of maturity. Such issues are not a common means of corporate financing

[3] 262 U. S. 276 (1923).

[4] The author has discussed the views of Mr. Justice Brandeis in some detail in his article, "Valuation of Public Utilities for Rate Purposes," in the March, 1926, issue of the *American Economic Review.*

in this country, but they occasionally appear in various forms, especially as debenture bonds. As the principal matures only in the event of default in the payment of interest or from breach of any of the covenants of the bond indenture, there is no definitely ascertainable time over which to retire either discount or premium. These issues must be regarded in the light of permanent investments, subject to conditions which cannot be foreseen, and the discount should be carried indefinitely as a measure of the commitment of bondholders to be extinguished only when the bonds are reacquired or retired.

A second problem is the treatment of unamortized discount or premium when bonds are reacquired by the issuing corporation. The classifications of most commissions provide that when the issuing company reacquires its own securities under circumstances which do not permit it to treat them as canceled or retired, the appropriate reacquired securities account is to be charged with the par value. At the same time, a proportionate part of the unamortized discount or premium is to be retired by a charge or a credit to surplus. The classifications adopted by the National Association of Railroad and Utilities Commissioners, and prescribed by many states, provide further that when such securities are reacquired at a price which "is greater or less than their par or face value, the difference shall be adjusted through Profit and Loss or through the appropriate discount or premium account." Thus, when bonds sold at a discount are reacquired at less than par, the unamortized discount on the bonds purchased is to be charged against surplus, and the difference between par and the purchase price may be charged against either surplus or unamortized discount. The Interstate Commerce Commission classifications stipulate, as "Note E" of account, "Securities Issued or Assumed—Unpledged," that "the difference between the par value and the amount paid in reacquiring such securities shall be debited (or credited, as the case may be) to Profit and Loss." No provision is made for canceling purchase discount on reacquired bonds against unamortized discount.

The policy of the Interstate Commerce Commission is preferable. The discount on the reacquired securities having been charged off, the Unamortized Discount account is not to be reduced further by a credit for the gain realized on the purchase of the bonds. To do so is to lead to an erroneous statement of the investment in the securities that remain outstanding and to a change in the effective interest on these bonds. The discount on the purchase does not affect the investment in the bonds still outstanding nor does it affect the interest cost thereon. Each bond continues to represent the same investment and to cost the same effective interest, changed only by subsequent amortization.

These are fundamental conditions which cannot be altered by the reacquisition of other bonds of the same issue. The net profit resulting from the reduction of the debt for less than its face or par value is the difference between the *book value* of the bonds, which is par value less unamortized discount, and the purchase price, and is not the difference between the par value and the amount paid to reacquire the bonds. This could be shown by charging the purchase discount to an account, "Discount on the Reacquisition of Bonds," and crediting this account with the unamortized discount on the bonds retired. The balance,

representing the net profit, could then be recorded as a surplus credit.

Another problem is closely related to that just considered. The practice of some utilities is to charge to unamortized discount not only the discount on an original issue, but also any discount suffered on a sale of reacquired securities. There is no provision in any commission classification bearing upon this question, but it is reasonable to assume that commissions do not contemplate that profits or losses resulting from a utility's trading in its own securities are to be charged or credited to discount or premium. Classifications would be strengthened by explicit instructions on this point.

A common form of corporate obligation is the first and refunding mortgage bond issued in series to acquire additional funds and to retire securities previously issued. During a period of high interest rates, a utility, anticipating a decline in the cost of money, will issue a series of bonds callable at a quoted price on and after a certain date, but convertible, before and after that time, into another series bearing a lower rate of interest. In no classification are there instructions for the disposition of discount or premium on bonds of the first series which have been converted. It has been observed that when bonds are retired before their maturity, a proportionate part of the unamortized discount or premium is to be charged or credited to surplus, as the case may be. The effect of a conversion of bonds from one series to another is to retire and cancel the first and to issue in their place bonds of the second series. The indebtedness is not reduced but merely changed in form. The officers and directors of a corporation, in preparing the financial plans and in estimating the savings to be derived from a conversion, treat the unamortized discount on the first series as one of the costs to be offset by a saving in interest after conversion. Since the debt is continued in a new form, the unamortized discount or premium on the first series becomes a part of the cost of the second and must be carried over and written off over the life of that issue.

Somewhat different is the conversion of bonds into capital stock. In this case the indebtedness is reduced, and as the cash interest payments are terminated, the charges for amortization of discount must be discontinued. This is not a mere change in the form of the indebtedness but a cancelation, and the unamortized discount or premium must be written off to surplus.

Amortization of Debt Expenses

Thus far, the discussion has been confined entirely to debt discount and premium and the expenses incurred in issuing bonds have been referred to only incidentally. All classifications agree that the expenses incurred in connection with the issue and initial sale of long-term debt obligations should be charged to the same account as discount. The instructions contained in the classifications adopted by the National Association of Railroad and Utilities Commissioners fully define the costs to be so charged.

By the term *expense* are meant all expenses in connection with the issue and initial sale of evidences of debt, such as fees for drafting mortgages and trust deeds; fees and taxes for issuing or recording mortgages and trust deeds; cost of printing bonds, certificates of indebtedness, and other commercial paper having life of more than one year; fees paid trustees acting under mortgages and trust

deeds; fees paid for legal services to trustees relative to mortgage securities; fees and commissions paid underwriters and brokers for marketing such evidences of debt; and other like expense.

It will be observed that the definition of expense applies specifically to those "in connection with the issue and initial sale of evidences of debt." No reference is made, either in the unamortized debt discount and expense account or elsewhere, to the periodic costs in connection with interest payments, to the expenses involved in reacquiring securities for the treasury or in their resale, or to the cost of redeeming and retiring obligations. Utility classifications will be searched in vain for instructions covering these items. Where then are they to be recorded? An examination of the records of various corporations shows that these costs are usually charged in one or both of two ways. In some instances they are charged to the discount and expense account and in others to an operating account, such as legal expenses or other general expenses.

The classification of the Federal Power Commission, in addition to defining debt expenses in words almost identical to those already quoted, provides that expenses of the second group are to be charged as a part of the operating costs.

Expenses incurred subsequent to the issue and initial sale of evidences of debt, such as payments to trustees for services in connection with the payment of interest on or the redemption of debt obligations, should be charged to operating expense account 945, "Other General Office Expenses," or other appropriate account. (Page 11, section 4 (*b*) of Federal Power Classification.)

The same words are found in the electric classification of the Railroad Commission of California.

In deciding upon an allocation of these charges, three questions may be asked:

First, are they expenses which should be carried in suspense and gradually retired as a part of the cost of borrowed funds, and thereby placed in the same category with discount and expenses in connection with the issue and initial sale of bonds?

Second, should they be treated as an operating expense and imposed directly upon the rate payer?

Third, should they be charged off as a gross income or surplus deduction during the year in which incurred?

As the expenses do not arise at the time of issue of the bonds, there is no justification for treating them as a deferred charge and gradually amortizing them over the life of the debt. If they are added to operating costs, the utility patron is required to carry directly a cost which has to do with the bondholders' investment. He would, therefore, be burdened with an expense which contributes no more to the earning of operating revenue than the interest itself.

A distinction of vital importance in public utility accounting is that between operating expenses and those to be paid out of return on the property. The operating expenses may be defined briefly as those incurred in rendering the public service and in producing the revenue derived therefrom. It is obvious that the costs of retiring bonds and similar expenditures are, like interest, a part of the capital expenses to be paid out of fair return. To avoid placing an undue burden upon the consumer and to make possible a determination of the total costs involved in borrowing on long-term debt obligations, there should be provided a gross income deduction account to be charged with the miscellaneous costs, such as periodic fees to fiscal agents and the

expenses in the payment of interest, which occur with regular frequency. The expenses incurred in reacquiring bonds and in retiring them should be charged against either gross income or surplus; or, in case the account, "Discount on the Reacquisition of Bonds," referred to above, is used, the expenses of reacquiring bonds would be charged to this account.

A STUDY OF UTILITY FINANCIAL STRUCTURES: CURRENT POSITION[1]

By A. E. PATTON AND O. GRESSENS

ONE of the important tasks of the executives of corporations is the control of finances. Administrative officers of all business enterprises ordinarily give careful attention to financial matters and particularly to financial structures. As financiers, men are usually judged by the structures which they establish and by their ability to remain out of financial embarrassment through all periods of business prosperity and depression, and, at the same time, retain the highest possible percentage of earnings for the common stockholders. Much of their thought, therefore, is given to methods and proportions which will allow them to finance as economically as possible and yet remain within the bounds of safety. In this latter respect, their most immediate concern probably is the availability at all times of proper amounts of liquid assets which can be readily converted into cash to meet current payments. Well-informed financiers know the calamitous results which follow a condition of frozen assets, and, in the great majority of cases, they carefully avoid such disasters. On the other hand, they also know that excessive investment in working capital is costly. One of their important responsibilities, therefore, is the maintenance at all times of proper proportions between their current assets and their current liabilities.

In the field of general corporation finance, this proportion between current assets and current liabilities is accepted as being approximately two to one. Investigations that have been made of the current positions of general types of businesses have confirmed this proportion and have arrived at the broad conclusion that current liquid assets should exceed current payables by a comfortable margin.[2] In the study of any particular industry, therefore, the question immediately arises as to whether or not that industry conforms to a current position which can be described by a current ratio of at least two to one. This is, obviously, a question of first importance. Negligence in the correction of defects of capitalization is not advisable, but such defects may not cause serious difficulty until the company has been caught in an adverse movement of the business cycle. Neglect of the current position, on the

[1] EDITORIAL NOTE: This is the second of a series of articles by these authors on the subject of financial structures of public utilities. For the first article, which treated scope and method, see THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS, April, 1926. The third article of the series, which will deal with the distribution of investments, will appear in the October issue.

[2] Alexander Wall, who has made a very intensive and elaborate investigation of the current ratios of industrials, arrives at the general conclusion that "this particular ratio has been more or less forced into a normality approximating 200%." "The writer has generally considered, in connection with the current ratio, that a ratio below 120% or above 300% indicated an excessively abnormal condition. . . ." See Alexander Wall, *Analytical Credits*, pp. 179 and 186. See also Alexander Wall, "Credit Barometrics," *Federal Reserve Bulletin*, March, 1919, p. 229.

James H. Bliss, in his *Financial and Operating Ratios*, arrives at a current ratio for industrials which is substantially the same as that found by Wall.

other hand, may easily embarrass the company at any moment. In a study of public utility finance, therefore, attention naturally turns to this ratio. The immediate importance of utility service and the high order of interdependence between the community and its utilities require that such companies be so managed that the service shall never be impaired by a lack of current funds.

In this study, an attempt has been made to determine, first, whether or not there is a "normal" or representative current position of the public utility industry considered as a whole;[3] second, whether this representative current position varies with variations in the sizes of utility companies; third, whether there is a "normal" current position for each type of public utility; fourth, whether the current position varies with the geographical location of companies; and, fifth, whether or not it varies with changes in general business conditions.[4]

I. The Representative Current Ratio of the Public Utility Industry

In order to study the representative current ratio of the public utility industry considered as a whole, a study has been made of a list of 200 companies. The current ratios of these companies have been calculated for the years 1915 to 1924, the data have been classified and a frequency distribution has been

[3] The "normal" ratio, as used in this study, is not an ideal ratio, but it is the representative ratio. In other words, it is a representation of actual, existing conditions. Statistically, it is that ratio which occurs most frequently among the companies included in the sample. Or, more concretely, it is that figure about which the current ratios of the greatest number of operating companies tend to concentrate. Graphically, it is represented by the highest point on the curve that has been fitted to the histogram of the frequency distribution. And mathematically, it is the value of the mode calculated from the equation of the curve. As contrasted with this representative ratio, the ideal ratio might be approximated by a study of the current positions of the most efficient and successful utility companies. Such a study would, however, require some standard with which the efficiencies of different companies could be measured. The difficulties of establishing this standard are obvious; they involve the intricacies of numerous personal judgments. Although the representative ratio cannot be considered the ideal ratio, it is, nevertheless, valuable because it represents the collective experience of all of the utilities included. The ideal ratio based upon a study of only the best companies is a superstandard to which few companies actually conform, and to which it may not be economically desirable for all companies to attempt to conform. If the representative ratio is discarded as valueless, the experience of operating companies is assumed to have been entirely wrong. For a fuller discussion of the representative ratio and of its significance, see "A Study of Utility Financial Structures: Scope and Method," THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS, April, 1926.

[4] This study is based upon data published by the Bureau of Business Research, University of Illinois, in *Bulletin Number 9* of its publications. The Bureau gathered the balance sheets and income statements of 125 gas and electric companies, 50 electric railway companies, and 25 holding companies, for the period 1915 to 1924. The total assets of these companies represent approximately 55% of the assets of all such utilities in the United States. This is due to the fact that no companies having total investments of less than $5,000,000 were included. Such companies were excluded because they are exceedingly small and are ordinarily haphazardly financed. The companies were not selected according to any other predetermined basis, but were chosen at random from all of the utility companies operating in the United States. Telephone companies, water companies, and municipally owned utilities have been excluded. Telephone companies were omitted because of the fact that the Bell system, controlled by the American Telephone and Telegraph Company, dominates the telephone industry, and a study of the financial structure of the Bell system is virtually a study of the telephone industry. Water utilities have been excluded because of the predominance of municipal ownership among them; and municipally owned utilities have been excluded because they are ordinarily non-profit organizations. The conclusions of this study, therefore, are applicable only to those types of utilities that are herein considered.

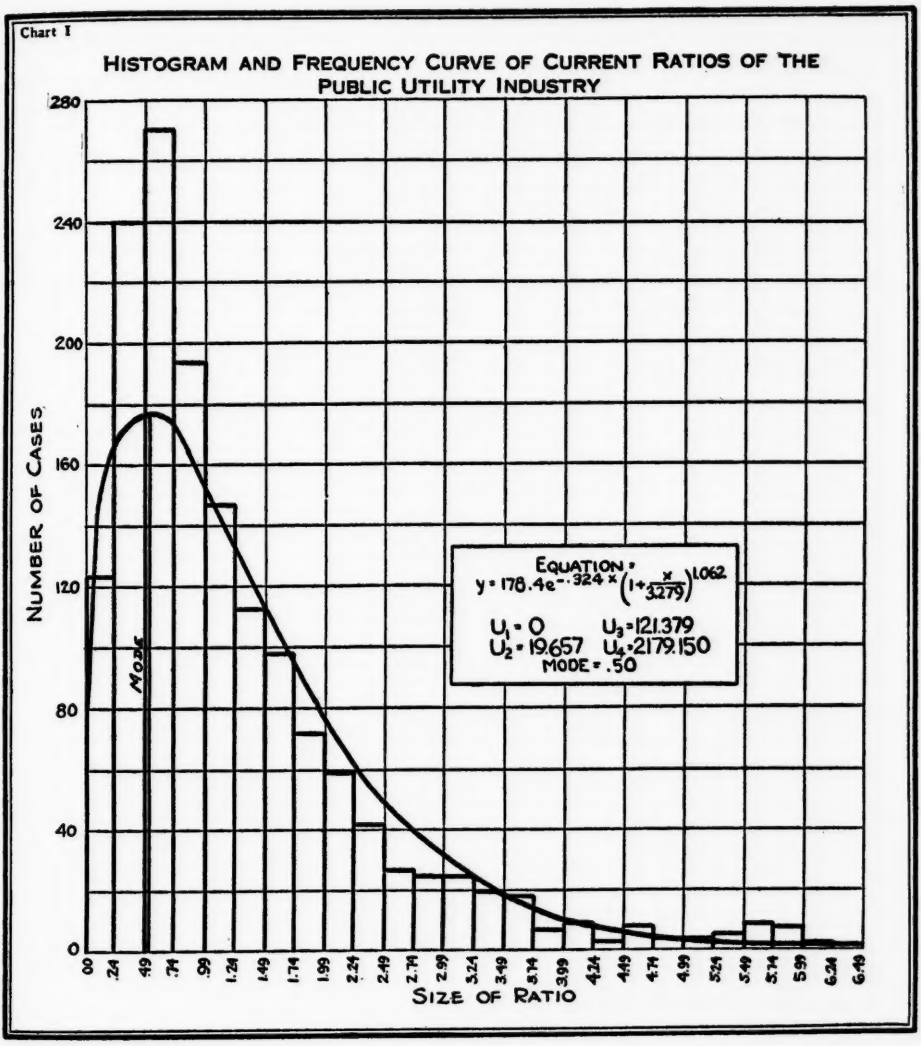


Chart I
HISTOGRAM AND FREQUENCY CURVE OF CURRENT RATIOS OF THE PUBLIC UTILITY INDUSTRY
NUMBER OF CASES
SIZE OF RATIO
MODE
EQUATION:
$y = 178.4e^{-.324x}\left(1+\frac{x}{3279}\right)^{1062}$
$U_1 = 0$ $U_3 = 121.379$
$U_2 = 19.657$ $U_4 = 2179.150$
MODE = .50

made in order that the characteristics of the data may be readily observed.[5] (See Table I and histogram of Chart I.)

The histogram of this distribution reflects in a general way the broad characteristics of the current ratio of

[5] In making a quantitative study based upon financial statements, the problem of standardizing those statements in order to make them comparable is encountered. In the study of the current ratio, therefore, one of the first tasks to be performed was the standardization of the balance sheets, and particularly the standardization of current assets and current liabilities. In this latter regard, considerable trouble was caused by an account usually entitled "Investments" which many companies carried on their balance sheets. It is difficult, and in some cases impossible, to determine the exact nature of the assets included in this account. Presumably, it is made up of investments in outside securities. In many cases, however, it is a miscellaneous account composed of all

TABLE I. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF THE PUBLIC UTILITY INDUSTRY*

Class Interval	Observed Frequencies	Graduated Frequencies
.00— .24	124	152.3
.25— .49	240	173.4
.50— .74	271	176.3
.75— .99	194	163.4
1.00—1.24	147	144.5
1.25—1.49	113	123.8
1.50—1.74	98	103.6
1.75—1.99	71	85.2
2.00—2.24	59	69.1
2.25—2.49	42	55.4
2.50—2.74	27	44.1
2.75—2.99	25	34.7
3.00—3.24	25	27.2
3.25—3.49	20	21.2
3.50—3.74	19	16.8
3.75—3.99	7	12.7
4.00—4.24	9	9.5
4.25—4.49	3	7.5
4.50—4.74	9	5.8
4.75—4.99	4	4.4
5.00—5.24	4	3.3
5.25—5.49	5	2.5
5.50—5.74	9	1.9
5.75—5.99	8	1.4
6.00—6.24	3	1.0

* The first column of this table and of all following tables indicates the size of the current ratio; the second column shows the number of times a ratio of any particular value actually occurs; and the third column shows the theoretical frequencies calculated from the equation of the curve fitted to the actual distribution. For example, current ratios between the values 00—.24 actually occur in 124 cases, and theoretically would occur 152.3 times.

(*Footnote 5 continued from page 311*)

investments in non-operating assets. It is impossible, therefore, to compare the balance sheets of companies having "Investments" with those of companies having no such item, unless some intelligent adjustment is made in this account.

In the standardization of the balance sheets of the companies included in this study, therefore, "Investments" have been consistently eliminated, unless such investments were obviously intended to be a part of working capital. This item has been excluded in all cases where it appeared in consecutive years in constant or increasing amounts. Such cases were interpreted as representing permanent investments, and not investments in working capital. Consequently, all banking operations have been excluded, and the balance sheets show only operating assets and operating liabilities. This adjustment was made in all cases except in the case of the holding companies. The current assets include cash, materials and supplies, accounts receivable, and such other assets as are obviously current items. And the current liabilities include accounts payable, notes payable, taxes, and other strictly current items.

The current ratios of the public utility companies considered in this study are, therefore, calculated from items which are strictly and unequivocally current in their nature. In this and in the studies that are to follow, the financial structures are operating structures, and no account is taken of capital invested outside the utility business.

For further discussion of the principles governing the standardization of the balance sheets and the income statements, see "A Study of Utility Financial Structures: Scope and Method," THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS, April, 1926. For a detailed discussion of the classification of specific final accounts see *Bulletin Number 9*, Bureau of Business Research, University of Illinois.

the industry.[6] It is immediately apparent, for example, that the greatest frequencies occur at positions where the current ratio is less than unity. That is, a majority of the companies have current assets smaller in amount than their current liabilities. As the current ratio exceeds one, there is a noticeable and surprising decline in the frequencies. When the current ratio exceeds four, there is an obvious and

[6] The size of the class interval for the frequency distribution of the current ratios has been fixed at 25%. Although this interval is too large to yield anything but approximate accuracy in the calculations of the graduated statistics, it is, nevertheless, accurate enough for this study, the purpose of which is to obtain the magnitudes, or close approximations thereto, about which the distributions tend to group themselves, and to determine the general characteristics of those distributions. It is not intended that these data shall be subjected to all of the analysis made possible by the rigorous technique of the calculus of probability. Data, the analysis of which demands a high degree of mathematical accuracy, such as actuarial statistics, for example, should not be grouped. A fair degree of rigor, however, suffices for the purposes of this study, and such inaccuracies as are introduced by grouping the statistics do not vitiate the conclusions.

TABLE II. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF COMPANIES HAVING ASSETS FROM $5,000,000 TO $9,000,000, INCLUSIVE

Class Interval	Observed Frequencies	Graduated Frequencies
.00— .24	72	55.3
.25— .49	70	61.6
.50— .74	91	59.7
.75— .99	50	53.0
1.00—1.24	46	45.3
1.25—1.49	25	37.6
1.50—1.74	23	30.6
1.75—1.99	17	24.5
2.00—2.24	20	19.3
2.25—2.49	11	15.1
2.50—2.74	7	9.0
2.75—2.99	8	6.9
3.00—3.24	11	5.3
3.25—3.49	7	4.1
3.50—3.74	9	3.0
3.75—3.99	2	2.2
4.00—4.24	4	1.8
4.25—4.49	1	1.3
4.50—4.74	3	1.0
4.75—4.99	3	.7

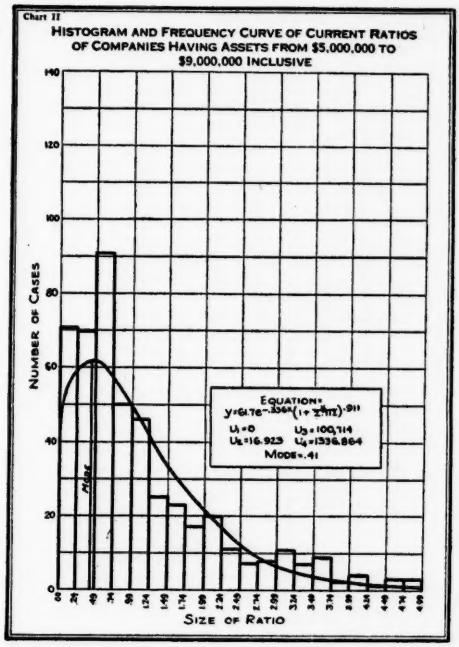


Chart II
HISTOGRAM AND FREQUENCY CURVE OF CURRENT RATIOS OF COMPANIES HAVING ASSETS FROM $5,000,000 TO $9,000,000 INCLUSIVE
NUMBER OF CASES
SIZE OF RATIO
EQUATION:
Mode=.41

uncertain scattering of frequencies. It is apparent, therefore, that the representative current ratio, calculated on the basis of these observations, falls considerably short of the ratio which Alexander Wall found to be representative of industry in general.

In order to make a more careful and more rigorous analysis of these data and to obtain more exact conclusions, a curve, giving the theoretical distribution, has been fitted to the histogram[7] (see Chart I). This curve displays the distinguishing characteristics of the distribution more clearly than does the

[7] From a fitted curve the mode, which is the representative ratio, can be calculated with greater precision than can be attained by the use of an approximation formula of the type

$$l + \frac{fc \times c}{f'c + fc} = \text{mode},$$

where l = lower limit of modal group;
c = class interval;
fc = the frequency of the next higher class interval; and
$f'c$ = the frequency of the next lower class interval.

In fitting curves to these distributions, it was found that Pearson's frequency curves derived from the general differential equation

$$\frac{d \log y}{dx} = \frac{x + a}{b_0 + b_1 x + b_2 x^2}$$

furnished greater accuracy than did the simpler curves of the polynomial series

$$y = b_0 + b_1 x + b_2 x^2 + \ldots .$$

Of these Pearsonian curves, Type III,

$$y = y_0 e^{-\gamma x}\left[1 + \frac{x}{a}\right]^{\rho}$$

was fitted to the statistics in each case, although the criterion K was sometimes found to be less than 4, which ordinarily would indicate Type I,

$$y = y_0\left[1 + \frac{x}{a_1}\right]^{m_1}\left[1 - \frac{x}{a_2}\right]^{m_2}$$

The original distributions of the current ratios, in each case, end in a long tail of low frequencies interspersed with a number of class intervals of zero frequency. This long tail considerably increased the arithmetic labor involved in fitting the curves, and yet added nothing of importance to the characteristics of the distributions. The dis-

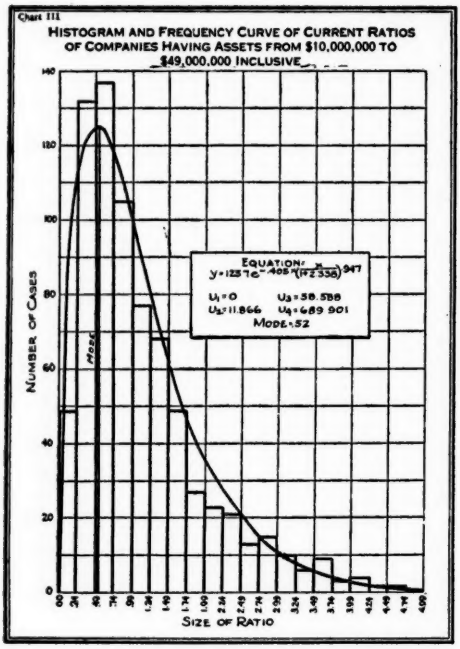


Chart III
HISTOGRAM AND FREQUENCY CURVE OF CURRENT RATIOS OF COMPANIES HAVING ASSETS FROM $10,000,000 TO $49,000,000 INCLUSIVE
EQUATION:
$y = 125.7 e^{-.405\left(\frac{x}{.2338}\right)^{.947}}$
$U_1 = 0$ $U_3 = 58.588$
$U_2 = 11.866$ $U_4 = 489.901$
MODE = .52
MODE
NUMBER OF CASES
SIZE OF RATIO

TABLE III. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF COMPANIES HAVING ASSETS FROM $10,000,000 TO $49,000,000, INCLUSIVE

Class Interval	Observed Frequencies	Graduated Frequencies
.00— .24	49	83.4
.25— .49	132	121.7
.50— .74	137	123.8
.75— .99	105	110.5
1.00—1.24	77	92.1
1.25—1.49	68	73.5
1.50—1.74	49	50.0
1.75—1.99	27	43.3
2.00—2.24	23	32.4
2.25—2.49	21	23.9
2.50—2.74	13	17.5
2.75—2.99	15	12.7
3.00—3.24	10	9.1
3.25—3.49	6	6.6
3.50—3.74	9	4.7
3.75—3.99	3	3.3
4.00—4.24	4	2.3
4.25—4.49	2	1.7
4.50—4.74	2	1.1

histogram, it furnishes greater precision, and it allows finer theoretical interpretation.

The characteristics of this curve immediately add emphasis to the general observations made from the histogram. The mode, or the highest point on the

tributions were, therefore, terminated at the point where zeros began to be interspersed with low frequencies. Retaining the long tail of the distributions would have increased the numerical magnitude of the criterion K in each case, thus indicating Type III curve. The equation of this type was, therefore, fitted to each distribution. Attention, however, must be called to the fact that each of the subgroups in this study was analyzed individually and without reference to the other groups and to the general total. Since the long tails of these subgroups have been eliminated, the summation of the frequencies of the subgroups does not equal the total frequencies of the entire list of 200 companies.

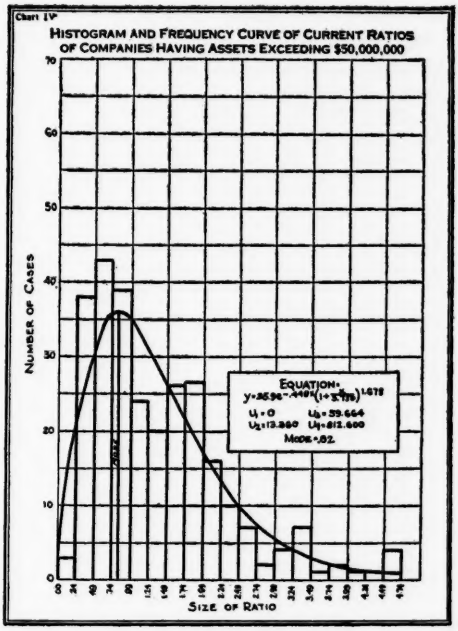
In graduating the statistics, no attempt was made to obtain the theoretical areas. Such areas could have been calculated by the use of Simpson's formula, or by some similar method. But since the object of this study is attained by defining the magnitude of the mode, the additional refinement of calculating the areas was not performed. The theoretical frequencies, therefore, present the y ordinates, calculated directly by substitutions in the equations of the fitted curves.

The moments were calculated from the observed statistics by Hardy's summation method, discussed and demonstrated by Palin W. Elderton in his *Frequency Curves and Correlation.* Sheppard's adjustments were not made because the distributions have high contact on only one side.

In considering these curves, it must be remembered that the statistics are not homogeneous in the strictest interpretation of that word. Current assets and current liabilities often vary from company to company, and in the same company from year to year. A curve fitted only to current assets or to current liabilities would, therefore, represent a frequency curve compounded of several curves and would show the *dominating curve* of the system. This is true even to a greater degree of a curve fitted to a distribution of current ratios. The statistical heterogeneity of the data is still more pronounced, although the accounting principles limiting the data within accounting definitions have been satisfied. For the purpose of the present investigation, however, the curve fitted to a distribution of current ratios is sufficient. It shows the dominating characteristics of that distribution.

TABLE IV. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF COMPANIES HAVING ASSETS EXCEEDING $50,000,000

Class Interval	Observed Frequencies	Graduated Frequencies
00— .24	3	13.2
.25— .49	38	22.2
.50— .74	43	34.5
.75— .99	39	35.5
1.00—1.24	24	33.3
1.25—1.49	20	28.9
1.50—1.74	26	23.9
1.75—1.99	27	19.1
2.00—2.24	16	14.9
2.25—2.49	10	11.4
2.50—2.74	7	8.5
2.75—2.99	2	6.3
3.00—3.24	4	4.6
3.25—3.49	7	3.3
3.50—3.74	1	2.4
3.75—3.99	2	1.9
4.00—4.24	1	1.2
4.25—4.49	0	.8



curve, occurs where the value of the current ratio is .50, indicating a current position in which the current liabilities are twice the current assets.[8] If the current ratio of two to one were representative of the public utility industry, the highest point on this curve would occur where the value of the ratio is two. But the curve shows clearly that a ratio of two to one is not representative of the industry.

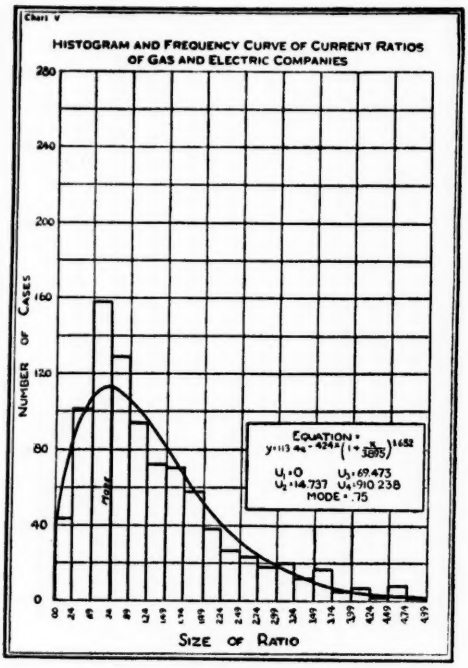
A fair conclusion, therefore, is that the "normal" or, in other words, the representative current position of the public utility industry does not conform to the widely accepted current ratio which has been established for manufacturing and merchandising businesses. The representative position of the utility business seems to be one in which funds available to meet current payables are less than the amount of those payables by approximately 50%.

II. Representative Current Ratios of Utility Companies of Various Sizes

When the 200 companies included in this study were classified according to size, and an analysis had been made of their current ratios for the 10-year period of 1915 to 1924, substantially the same results and conclusions were obtained as were obtained in the study of the industry as a whole.

From a consideration of the balance sheets, the groupings in sizes which seemed most logical were: (1) companies the operating assets of which totaled from 5 to 9 millions of dollars

[8] The value of the mode derived by this method differs somewhat in magnitude from the value derived by the method used in *Bulletin Number 9*, Bureau of Business Research, University of Illinois. The Bureau's value was approximated directly from the frequency distribution, while the value of the mode in this study was more exactly determined from the frequency curve.



inclusive; (2) companies the operating assets of which totaled from 10 to 49 millions inclusive; and (3) companies having operating assets which totaled more than 50 millions of dollars.

The representative current ratio of the first of these groups of companies was found to be .41 (see Table II and Chart II). Although the characteristic distribution of the ratios in this case is similar to that of the industry as a whole, the representative ratio is lower.

In the second group of companies, the representative ratio is .52 (see Table III and Chart III). This figure is somewhat larger than that of the first group. It is difficult, however, to say whether this difference denotes anything of real significance; the distributions of these two groups appear to be similar in every respect.

The companies which have investments in operating assets exceeding 50 millions of dollars have, on the other hand, a higher representative current ratio. Its value was found to be .82 (see Table IV and Chart IV). It seems safe to say, therefore, that the larger companies are in a stronger current position than are the smaller ones. Attention should, however, be called to the fact that when the arithmetic average of each of these groups is considered, these differences tend to diminish.[9] In the case of the largest companies, this average is 1.37; in the middle group it is 1.14; and in the group of smaller companies it is 1.15. These differences, although not as great as before, still lead to the con-

TABLE V. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF GAS AND ELECTRIC COMPANIES

Class Interval	Observed Frequencies	Graduated Frequencies
.00— .24	42	60.9
.25— .49	101	96.7
.50— .74	158	111.8
.75— .99	129	111.8
1.00—1.24	94	102.5
1.25—1.49	72	88.8
1.50—1.74	71	73.8
1.75—1.99	58	59.9
2.00—2.24	38	46.9
2.25—2.49	27	36.2
2.50—2.74	25	27.6
2.75—2.99	18	20.7
3.00—3.24	20	15.4
3.25—3.49	12	11.4
3.50—3.74	17	8.3
3.75—3.99	5	6.0
4.00—4.24	7	4.3
4.25—4.49	2	3.1
4.50—4.74	8	2.2
4.75—4.99	1	1.6

[9] For a discussion of the difference between the arithmetic average and the modal average, see "A Study of Utility Financial Structures: Scope and Method," THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS, April, 1926.

clusion that the larger companies are in a stronger current position than are the smaller companies.

It is difficult to explain this increase in the current ratio with the increase in the size of the utilities. The general characteristics of the large companies compared with small companies, however, afford a partial explanation. Ordinarily, large corporations tend to develop higher efficiency, not only in operations but also in finance. It does not necessarily follow that operating and financial efficiency of a high degree are associated in the same company. In some cases, high operating efficiency may be accompanied by poor financing; on the other hand, good financing is not necessarily indicative of economic operation. Ordinarily, however, there is the tendency for large corporations to excel in both of these departments. This is doubtless due to the fact that in most cases large corporations can command the services of the ablest engineers and financiers. The limited

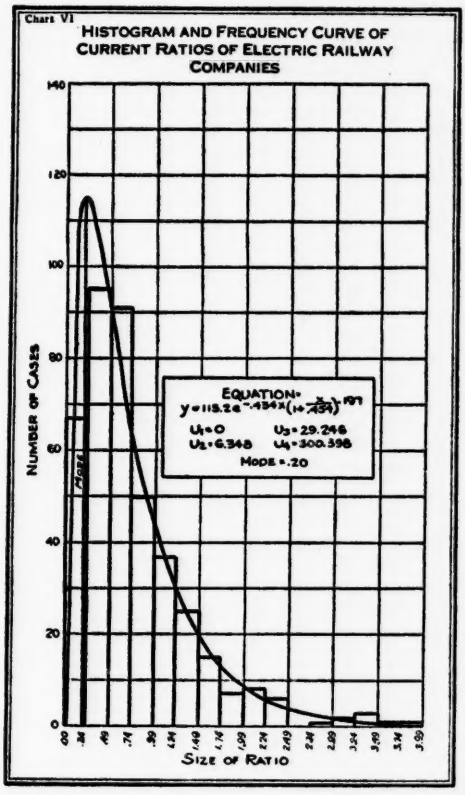


TABLE VI. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF ELECTRIC RAILWAY COMPANIES

Class Interval	Observed Frequencies	Graduated Frequencies
00— .24	67	105.2
.25— .49	95	101.6
.50— .74	91	74.3
.75— .99	50	61.0
1.00—1.24	37	35.6
1.25—1.49	25	23.9
1.50—1.74	15	15.8
1.75—1.99	7	10.7
2.00—2.24	8	7.1
2.25—2.49	6	4.7
2.50—2.74	0	3.3
2.75—2.99	1	2.1
3.00—3.24	2	1.4
3.25—3.49	3	.9
3.50—3.74	1	.6
3.75—3.99	1	.4

resources of the small companies, on the other hand, necessitate the employment of men who are less capable and less specialized than the men employed by the large companies. Small undertakings are not able to attract and retain men of large capacities and are unable to use specialized ability to the extent that the large utility can.

The comparatively poor current position of the smaller companies can, therefore, probably be attributed to their lack of financial efficiency and to their hand-to-mouth existence. Many of these companies, for example, are usually in such a position that they cannot take advantage of quantity purchases and of cash and trade discounts.

Large companies, on the other hand, ordinarily purchase materials and supplies in quantities and they usually keep themselves in a position to take advantage of all discounts. This fact in itself increases the current ratio.

III. Representative Current Ratios of Gas and Electric, Electric Railway, and Holding Companies

In order to determine whether or not there is a tendency for the current ratio to vary with the different types of utilities, the list of 200 companies has been divided into groups according to kind, and each group has been separately studied.

The first classification that was analyzed includes the gas and electric utilities, which have been considered as one.[10] The frequency distribution of this group appears to be quite similar to the distributions already studied (see Table V and Chart V). The curve which has been fitted to the histogram clearly shows, again, that the current ratio, which can be called the representative ratio of these companies, is considerably less than the current ratio which is ordinarily accepted as denoting a sound and liquid condition in other industries. The value of the ratio, as computed from the equation of the curve, is .75. In other words, for every three dollars of current assets, the representative ratio shows four dollars of current obligations. The curve obviously yields a satisfac-

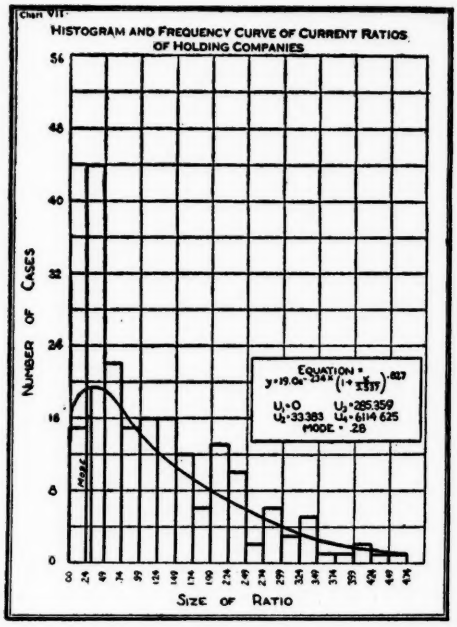
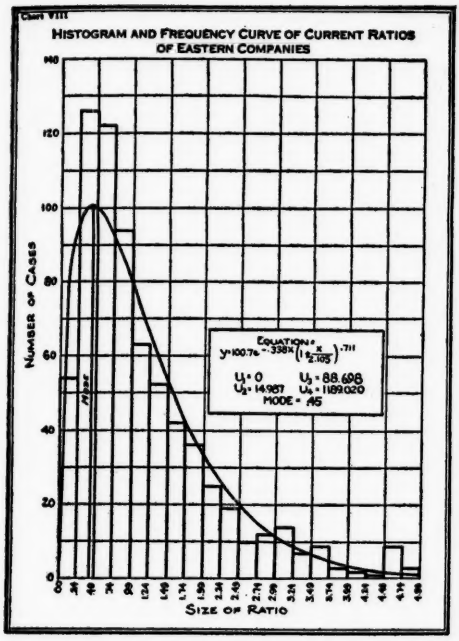


TABLE VII. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF HOLDING COMPANIES

Class Interval	Observed Frequencies	Graduated Frequencies
oo— .24	15	18.7
.25— .49	44	18.9
.50— .74	22	18.0
.75— .99	15	15.0
1.00—1.24	16	13.2
1.25—1.49	16	11.6
1.50—1.74	12	9.9
1.75—1.99	6	8.6
2.00—2.24	13	7.3
2.25—2.49	9	6.2
2.50—2.74	2	5.2
2.75—2.99	6	4.3
3.00—3.24	3	3.6
3.25—3.49	5	3.0
3.50—3.74	1	2.5
3.75—3.99	1	2.1
4.00—4.24	2	1.7
4.25—4.49	1	1.4
4.50—4.74	1	1.2
4.75—4.99	3	1.0
5.00—5.24	2	.8
5.25—5.49	1	.6
5.50—5.74	4	.4

[10] These two utilities have been considered as one and have been studied together because of the fact that they are so often operated in such close interrelationship that it is extremely difficult to separate one from the other.



tory fit and, therefore, allows detailed analysis. At the point where the ratio has a value of two, the curve is beginning to flatten out against the base, which means that from this value on through higher values of the current ratio, comparatively few companies can be found which have a strong position between current assets and current liabilities. That which has been said of the current ratios of the utilities so far considered applies, therefore, with equal force to the current ratio of this group.

The same conclusions apply also to the current ratio of the electric railways, with the significant difference that the current position is in this case even weaker than in those cases that have been studied (see Table VI and Chart VI). The representative current ratio of the electric railway industry, as calculated from the equation of the curve which has been fitted to the statistics, has a value of .20. This current position is very low. It may be explained in part by the fact that electric railway companies have been in notorious financial difficulties. Electric railways also naturally have a lower investment in current assets than do other utilities because of the fact that they have practically no accounts receivable. A financial theory, therefore, which calls for a current position in which the current assets are twice the current liabilities is particularly inapplicable to electric railways. This, of course, presupposes that the experiences of these companies have not resulted in a financial structure that is entirely wrong. Their survival, in spite of the difficulties in which many of them have found themselves, furnishes a fairly valid argument against the assumption that their financial structures are wholly at fault.

TABLE VIII. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF EASTERN COMPANIES

Class Interval	Observed Frequencies	Graduated Frequencies
00— .24	54	79.9
.25— .49	126	100.0
.50— .74	122	97.4
.75— .99	94	86.2
1.00—1.24	63	72.4
1.25—1.49	52	58.9
1.50—1.74	42	47.1
1.75—1.99	36	37.1
2.00—2.24	25	28.8
2.25—2.49	19	22.2
2.50—2.74	10	17.0
2.75—2.99	12	12.9
3.00—3.24	14	9.7
3.25—3.49	7	7.3
3.50—3.74	9	5.5
3.75—3.99	3	4.1
4.00—4.24	2	3.0
4.25—4.49	1	2.3
4.50—4.74	9	1.7
4.75—4.99	3	1.2

In the case of holding companies, a current ratio of .28 was found (see Table VII and Chart VII). The value of this ratio is almost as low as that of electric railways. It is difficult, however, to comment upon the significance of current ratios of holding companies. In the first place, it is hard to define their current items. Marketable securities, for example, which would be considered current assets in the case of operating companies, form the fixed investments of holding companies. If holding companies should dispose of these investments in the securities of other companies, they would cease to exist as holding companies. Such investments must, therefore, be considered fixed investments. Consequently, the income of holding companies is of an essentially different nature from that of operating companies. It consists of the earnings from these securities of underlying operating companies, and it depends in a large measure upon the financing of those companies. Furthermore, for all practical purposes, the earnings of a pure holding company are both its gross and net incomes. A holding company does not have any expenses except for comparatively insignificant items such as office rent, executive salaries, and records; there are negligible investments in inventories, accounts receivable, and in other current assets which form the current items of operating expense. As a result, cash resources and short-term payables incident to financing ordinarily make up the current items of holding companies. The current ratio is, therefore, not of any particular separate significance; it must be interpreted together with the general scheme of financing. It should be noticed, nevertheless, that

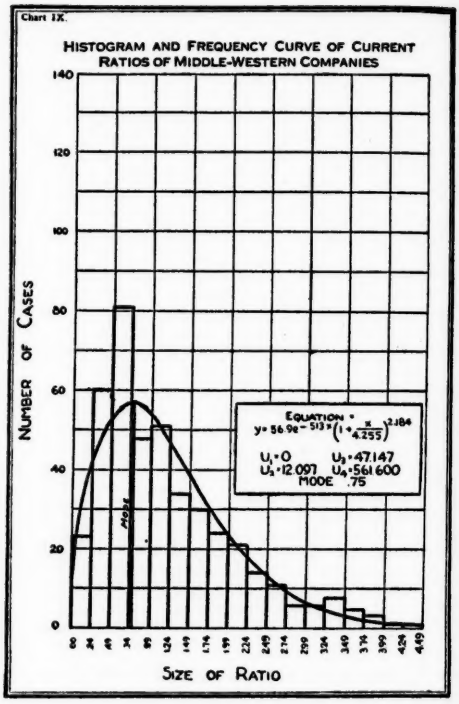


Chart IX.
HISTOGRAM AND FREQUENCY CURVE OF CURRENT RATIOS OF MIDDLE-WESTERN COMPANIES
NUMBER OF CASES
SIZE OF RATIO
MODE .75

TABLE IX. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF MIDDLE-WESTERN COMPANIES

Class Interval	Observed Frequencies	Graduated Frequencies
.00— .24	23	31.1
.25— .49	60	48.4
.50— .74	81	56.9
.75— .99	48	50.5
1.00—1.24	51	42.7
1.25—1.49	34	34.5
1.50—1.74	30	26.9
1.75—1.99	24	20.3
2.00—2.24	21	15.1
2.25—2.49	14	10.9
2.50—2.74	11	7.8
2.75—2.99	6	5.6
3.00—3.24	6	3.8
3.25—3.49	8	2.7
3.50—3.74	5	1.8
3.75—3.99	3	1.2
4.00—4.24	1	.8
4.25—4.49	1	.6

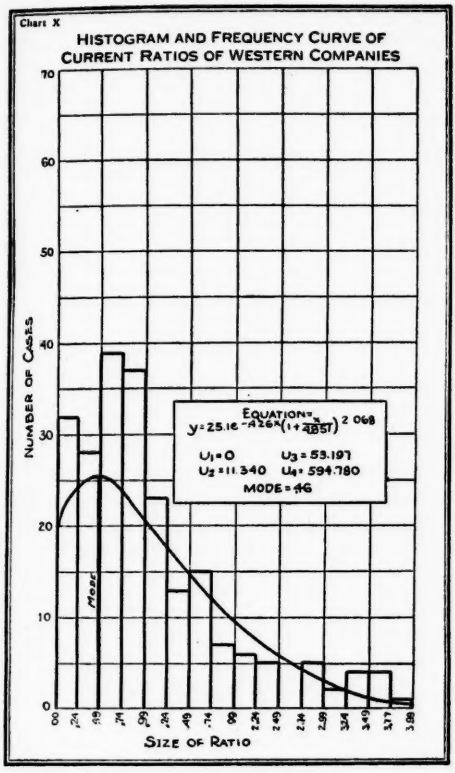


Chart X
HISTOGRAM AND FREQUENCY CURVE OF CURRENT RATIOS OF WESTERN COMPANIES
NUMBER OF CASES
SIZE OF RATIO
EQUATION:
$y = 25.16\, e^{-4.264\left(1+\frac{x}{.4857}\right)}$ 2.068
$U_1 = 0$ $U_3 = 53.197$
$U_2 = 11.340$ $U_4 = 594.780$
MODE = .46
Mode

holding companies have a remarkably low current ratio.

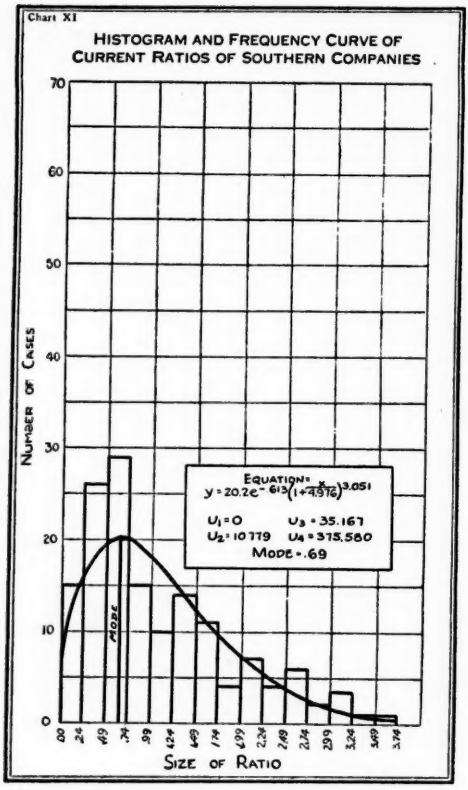
IV. Representative Current Ratios of Utility Companies According to Geographical Locations

A third classification of the companies has been made according to their geographical locations for the purpose of determining whether or not there is a tendency for the current ratio to vary between different sections of the country. This classification includes the following divisions: eastern, middle-western, western, and southern. The eastern companies were found to have a representative current ratio of .45, which tends to indicate a weaker position than that of the industry as a whole (see Table VIII and Chart VIII). The middle-western companies have a representative current ratio of .75; the western companies one of .46; and the southern companies one of .69 (see Tables and Charts IX, X, XI).

The eastern and western utility companies, therefore, show a considerably smaller investment in current assets than do the middle-western companies. This fact is further borne out by the arithmetic averages of the current ratios of these groups. In the case of the eastern companies, the arithmetic average is 1.19; for the middle-western group, it is 1.23; while the western companies have an average of 1.04. The southern companies, on the other hand, take a middle position between the eastern and the middle-western companies, as in the case of the modal average. In these classifications, again, the low current ratios which were found in the previous classifications are confirmed.

TABLE X. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF WESTERN COMPANIES

Class Interval	Observed Frequencies	Graduated Frequencies
00— .24	32	22.9
.25— .49	28	25.0
.50— .74	39	23.8
.75— .99	37	21.3
1.00—1.24	23	19.9
1.25—1.49	13	16.8
1.50—1.74	15	13.8
1.75—1.99	7	11.1
2.00—2.24	6	8.7
2.25—2.49	5	6.8
2.50—2.74	0	5.2
2.75—2.99	5	2.3
3.00—3.24	2	2.1
3.25—3.49	4	1.6
3.50—3.74	4	1.1



V. Representative Current Ratios of the Public Utility Industry for the Years 1917, 1919, 1921, and 1924

In an attempt to determine whether or not the current ratio of the public utility industry changes with movements of the business cycle, the years 1917, 1919, 1921, and 1924 have been isolated and analyzed. These particular years were selected because they may be characterized respectively by war activity, prosperity, depression, and recovery.

The year 1917 was a year of intense war activity, which fact seems to be reflected somewhat in the distribution of the frequencies of the current ratios for that year (see Table XII and Chart XII). The histogram of the observed frequencies is very irregular, and the curve yields a relatively poor fit.[11] The highest point on the curve, however, coincides fairly accurately with the highest point on the histogram. From the curve the value of the representative ratio was found to be .76, thus indicating a value somewhat higher than the representative ratio obtained for the industry as a whole for the period 1915 to 1924. It indicates, nevertheless, a current position in which the current obligations exceed the current assets.

The year 1919, a post-war boom year, shows a lower representative ratio than that for the year 1917, but still varying only slightly from the representative ratio obtained when considering the entire industry for the period 1915 to 1924 (see Table XIII and

TABLE XI. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF SOUTHERN COMPANIES

Class Interval	Observed Frequencies	Graduated Frequencies
.00— .24	15	13.1
.25— .49	26	18.2
.50— .74	29	20.1
.75— .99	15	19.5
1.00—1.24	10	17.2
1.25—1.49	14	14.2
1.50—1.74	11	11.1
1.75—1.99	4	8.4
2.00—2.24	7	6.1
2.25—2.49	4	4.3
2.50—2.74	6	3.0
2.75—2.99	2	2.1
3.00—3.24	3	1.4
3.25—3.49	1	.9
3.50—3.74	1	.6

[11] In these type years, the curves yield poor fits. This is due to the limited number of observations.

Chart XIII). Again, the histogram of the observed statistics shows considerable irregularity, and the curve yields a rather poor fit. As before, the representative ratio, the value of which was found to be .68, indicates a current position in which the current assets are considerably less than the current liabilities.

For the year 1921, which was the post-war depression year, the representative ratio has a value of .64 (see Table XIV and Chart XIV). There is, thus, practically no difference between the representative ratio of this year and that of 1919, a boom year.

For the year 1924 the calculated value of the representative ratio is .91 (see Table XV and Chart XV). The observed statistics in this case indicate clearly that there is a tendency for the ratios to group themselves about this higher value. The year 1924 was a year of great expansion, particularly in the electric light and power industry. This fact, coupled with the recovery begun in 1923 and continued in 1924, probably reflects the influence of improved business conditions upon current position of all utilities.

Considering these four years together, the general conclusion may be drawn that although changing business conditions are reflected somewhat in the current ratios of public utility companies, that reflection is slight.[12] In

Chart XII

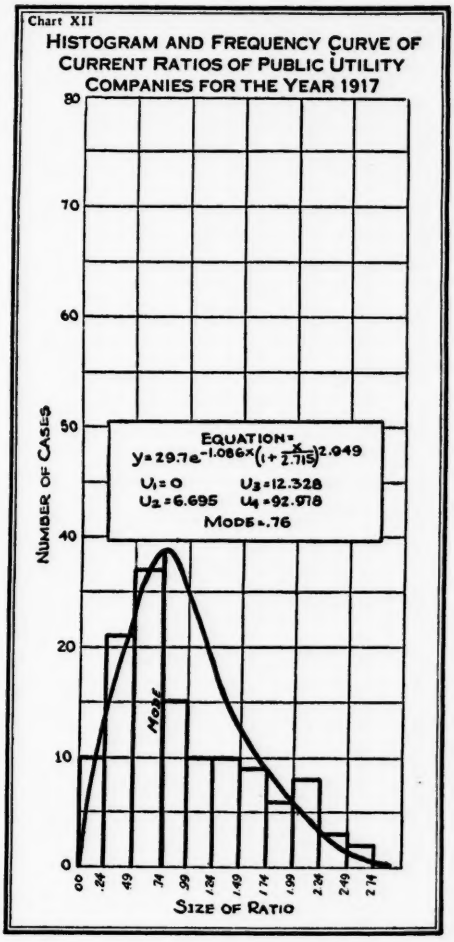


TABLE XII. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF PUBLIC UTILITY COMPANIES FOR THE YEAR 1917

Class Interval	Observed Frequencies	Graduated Frequencies
.00— .24	10	1.9
.25— .49	21	13.8
.50— .74	27	24.1
.75— .99	15	28.4
1.00—1.24	10	21.5
1.25—1.49	10	13.6
1.50—1.74	9	7.7
1.75—1.99	6	4.1
2.00—2.24	8	2.0
2.25—2.49	3	1.0
2.50—2.74	2	.4

[12] This assumes, of course, that the quality of the current assets remains unimpaired in depression years. Such assumption is justified in the case of public utilities because of their efficient and prompt collection methods and their low investments in inventories.

other words, it seems to be a matter of indifference whether a war year, a boom year, a depression year, or a year of marked expansion is chosen for a study of the current ratio, for it is always true that utility companies as a group are continually in a current position in which their current resources aggregate less than their current obligations.

Conclusions

Considering the analyses of the various classifications of public utility companies included in this study, it is apparent that the representative current ratio in each case indicates a situation in which current liabilities exceed current assets. A comparison of individual companies often shows a divergence from this condition, which is due, in part at least, to the variations in the types of business that are conducted by the different companies. Some utilities, for example, sell a high percentage of their output to wholesale consumers; others deal exclusively with retail customers. In one case, a small amount of working capital may suffice; in another, a larger amount may be necessary, and thus a difference in the current ratio arises. Notwithstanding these variations between individual companies, the representative current position of each classification of utilities is one in which current liabilities exceed current assets.

Furthermore, it is evident that between different classifications the current ratio generally varies only within narrow limits. There is some difference between the current ratios of various types of utilities; there is some variation

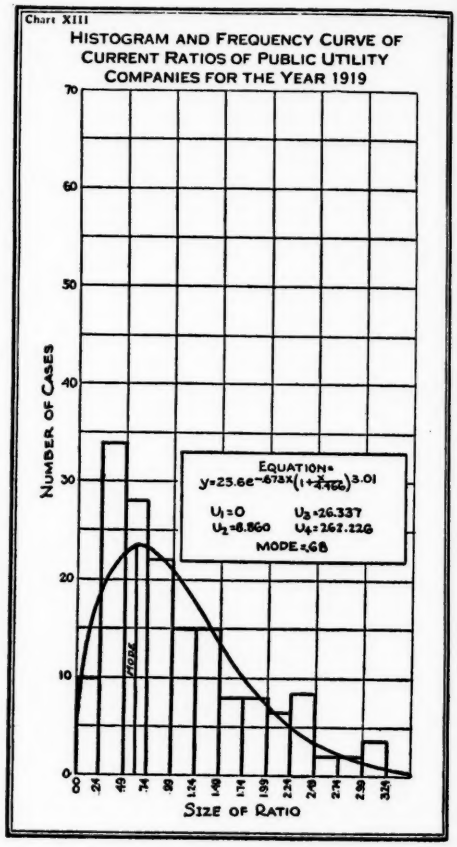


TABLE XIII. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF PUBLIC UTILITY COMPANIES FOR THE YEAR 1919

Class Interval	Observed Frequencies	Graduated Frequencies
00— .24	10	13.5
.25— .49	34	20.7
.50— .74	28	23.1
.75— .99	22	22.6
1.00—1.24	15	19.5
1.25—1.49	15	15.5
1.50—1.74	7	11.6
1.75—1.99	7	8.4
2.00—2.24	6	5.8
2.25—2.49	8	3.9
2.50—2.74	2	2.6
2.75—2.99	2	1.7
3.00—3.24	4	1.0

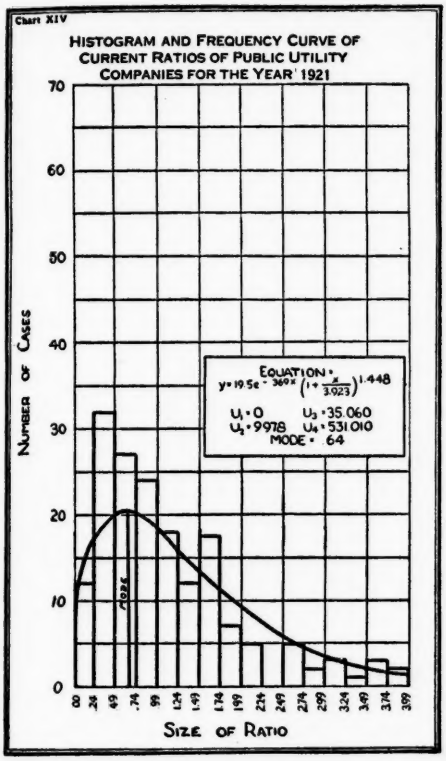


Chart XIV
HISTOGRAM AND FREQUENCY CURVE OF CURRENT RATIOS OF PUBLIC UTILITY COMPANIES FOR THE YEAR 1921
NUMBER OF CASES
SIZE OF RATIO
MODE
EQUATION
MODE = 64

with changes in business conditions; and there is a slight improvement in the current position with increases in the size of companies; but, in general, the ratio varies slightly and it remains uniformly low.

The significance of the current ratio in public utility finance, therefore, is naturally questioned. If the ratio has the importance ordinarily imputed to it in industrial finance, then the conclusion is forced that public utilities are in a weak current position. This conclusion, however, notwithstanding the financial difficulties of some of the operating companies, would be absurd. Low current ratios are so prevalent among public utilities that it is safe to conclude that they are a general characteristic of the industry. Several peculiarities of the industry tend to explain this condition.

In the first place, public utility companies market services rather than commodities. Many utility companies engage in the merchandising of appliances, but such activities form only a small fraction of the total bulk of their business. Inventories, therefore, which are so significant an item in most manufacturing and merchandising companies, are relatively insignificant in public utilities. This in itself contributes materially to a lowering of the current ratio.

Again, public utility companies carry smaller amounts of accounts receivable than do most manufacturing and merchandising companies of comparable size. Utilities ordinarily do a cash business, or a credit business in which the collection policies are strictly enforced on a 30-day basis. This fact contributes to a lowering of the investment in current assets, and thus, again, to a lowering of the current ratio.

TABLE XIV. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF PUBLIC UTILITY COMPANIES FOR THE YEAR 1921

Class Interval	Observed Frequencies	Graduated Frequencies
00— .24	12	14.3
.25— .49	32	18.4
.50— .74	27	18.8
.75— .99	24	17.1
1.00—1.24	18	14.8
1.25—1.49	12	12.5
1.50—1.74	18	10.2
1.75—1.99	7	8.2
2.00—2.24	5	6.6
2.25—2.49	0	5.2
2.50—2.74	5	4.0
2.75—2.99	2	3.0
3.00—3.24	3	2.4
3.25—3.49	1	1.8
3.50—3.74	3	1.3
3.75—3.99	2	1.0

This low current ratio is, therefore, representative; but it does not necessarily indicate a weak financial position. Owing to the fact that public utilities have a steady and more or less uniform monthly income, they are able to turn over a small amount of current assets rapidly. By realizing a higher rate of turnover of their current assets than of their current liabilities, they are able to meet current obligations with a comparatively small investment in liquid assets. From these considerations, the conclusion is reached that the rapidity with which current assets are liquidated into cash would be a more significant gage with which to compare current payables.

Another factor deserves consideration. The general theory of the current ratio and the significance which has been imputed to it have been based primarily upon the financial theory surrounding mercantile establishments. Such businesses carry large investments

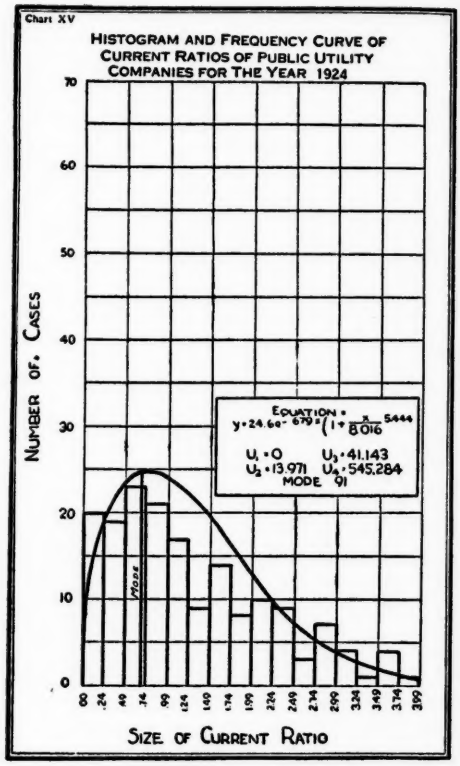


TABLE XV. OBSERVED AND GRADUATED STATISTICS OF CURRENT RATIOS OF PUBLIC UTILITY COMPANIES FOR THE YEAR 1924

Class Interval	Observed Frequencies	Graduated Frequencies
.00— .24	20	14.0
.25— .49	19	19.5
.50— .74	23	23.2
.75— .99	21	24.5
1.00—1.24	17	23.9
1.25—1.49	9	21.6
1.50—1.74	14	18.5
1.75—1.99	8	15.2
2.00—2.24	10	11.9
2.25—2.49	9	9.0
2.50—2.74	3	6.7
2.75—2.99	7	4.9
3.00—3.24	4	3.4
3.25—3.49	1	2.4
3.50—3.74	4	1.6
3.75—3.99	1	1.1

in stocks of goods and in accounts receivable, and relatively small investments in fixed assets. In these businesses, the current ratio is an excellent index of their financial condition. In the case of public utility companies, the obverse is true. The major part of their investment is in fixed plant; a comparatively small fraction is invested in current and other assets. The current ratio, therefore, does not serve as a reliable index of the financial position of public utilities. It is necessary, of course, that public utilities maintain a current position which will allow them to meet their current obligations, but a more significant index of their financial position is the ratio between total investment and total debt.

THE INDETERMINATE PERMIT AS A TYPE OF PUBLIC UTILITY FRANCHISE

By DELOS F. WILCOX

THE terms "indeterminate franchise," "indeterminate permit," "revocable permit," "terminable permit," "indefinite grant," and so forth, have been used to describe the general type of franchise here under consideration. While it is true that the indeterminate franchise has appeared in many forms, and that the differences in its form may be, and often are, of vital significance, there is nothing in the different terms that have been used which expresses precisely these differences. The nomenclature is unsettled. The one idea that is common to all the names and phrases is a franchise which may be terminated by public authority without a resort to condemnation proceedings.

The discussion of the indeterminate franchise has been going on over a period of more than 25 years, and the idea in one or another of its various forms has been incorporated into law or franchise contract in a considerable number of states and cities. The discussion of this type of franchise leads directly to the heart of the whole problem of the public relations of public utilities. It involves the question of public and private ownership and operation, the question of adequate service at reasonable rates, the questions of initiative, profits, valuation and rate making, security, continuity, expansion, abandonments, public control, political interference, and everything else that is of vital interest to utility operators, investors, patrons, and the community as a whole.

Forms of Indeterminate Permit

The indeterminate permit in its simplest form is found in the legislation of Congress granting franchises within the District of Columbia and providing for the government of our insular possessions. Here, the grant is made with an unqualified reservation of the right of amendment, alteration, or repeal. Under this form of indeterminate permit the grantee has no legal guaranty whatever that its property devoted to public service may not be rendered useless, and in effect destroyed, at any time, by a simple act of public authority terminating the grantee's right to operate the utility.

Next in simplicity is the form of indeterminate permit which prevails in Massachusetts with respect to street-railway locations. Referring to the law and practice in Massachusetts at the time of its investigation, the Charles Francis Adams Committee of 1898 said: "One feature in the franchises granted to the Massachusetts companies immediately attracts notice; from the beginning they were, and still almost invariably are, in terms perpetual, while in reality legally revocable at the discretion of local boards . . . . In Massachusetts . . . . the grants of location have, as a rule, been of the simplest possible character, drawn in the most general terms, and with a noticeable absence of technicalities, reservations, and safeguards against contingencies; and yet, while by these locations the local boards apparently

granted the corporations rights in perpetuity in the public ways, the law, at the same time, reserved to the boards the power to revoke those rights at discretion." [1]

The committee found that, on the whole, both sides were quite well satisfied with the actual workings of this type of franchise; but its attention was called to the fact that most of the street railways of Massachusetts were operating in more than a single town and, therefore, that the arbitrary right of revocation vested in the local authorities of each town might be exercised in such a way as to interfere with the convenience of the car-riding public in adjoining municipalities. Primarily as a means of avoiding this possibility, the committee recommended and the Massachusetts legislature enacted an amendment of the law by which it was provided that, unless the revocation of a street-railway location was accepted by the company, it should not become effective until approved by the state board of railroad commissioners. With this modification, the indeterminate permit in its original simplicity has remained the general law in Massachusetts as applied to street railways to the present day; but no such provision has been incorporated in the law as applied to other public utilities in that state.

The Massachusetts committee called attention to the fact that everywhere, both in Europe and America, the development of street-railway policies was recognized fundamentally as a matter "of distinctly municipal or local concernment," and the committee declared itself in favor of granting to the local authorities "explicit power hereafter to impose such terms and conditions as they deem the public interests demand on original grants and locations in the localities over which they have jurisdiction." And again the committee states pointedly that it "is not disposed lightly to recommend exceptions to the principle of local self-government."

Protection of Public Interests Dependent upon Effective Power of Revocation

In his address before the Wisconsin legislature, while the state utilities bill was pending in 1907, Allen Ripley Foote described the needs of the public utilities as demanding "a perpetual and exclusive franchise," as contrasted with the "short-term and competitive franchises" from which the people had suffered in the past. "The indeterminate franchise provided for in the Wisconsin Measure fully satisfies these requirements," said he. "It is an exclusive and perpetual franchise to be enjoyed during good behavior only. So long as a utility operated under it gives the people an efficient service at reasonable prices, there will be no reason for taking the business out of the hands of the corporation operating the utility. When it ceases to do this, the people will have the means and the power to at once take possession of the utility and operate it for their own account. Under these conditions the corporation by failing to give a square deal will write its own death sentence." His whole optimistic vision of the condition that will result from the adoption of the indeterminate permit as the franchise policy of the state is based upon the assumption that the people will have not merely the right but the effective power to terminate the grant at

[1] Report of the Special Committee appointed to investigate the relations between cities and towns and street railway companies, Massachusetts, 1898, p. 17.

will by acquiring the property for public operation.

In an article published in the *Atlantic Monthly* in March, 1903, George C. Sikes, then secretary of the Municipal Voters' League of Chicago, and formerly secretary of the Chicago Street Railway Commission, advocated the indeterminate franchise as the best guaranty against the utility abuses from which American urban communities had been suffering. On the point of the importance of the city's right to terminate the grant at will, Mr. Sikes said:

> It is very difficult indeed to compel a corporation enjoying definite-term rights in the streets to do what it may desire for reasons of self-interest not to do, even in cases where theoretically large powers of control are reserved to the governing authorities. The only way for a city to be certain of its ability to exercise complete control over its public streets is for it not to surrender beyond recall any rights of use or of occupancy in such streets. The city can control completely only when it is in a position to terminate at any time the right of use claimed by any person or corporation that may choose to defy the will of the city in any respect. In other words, the grant terminable at the will of the governing authorities is the only kind under which the city can be sure of its ability to dominate the situation at all times.

In a report on "The Indeterminate Permit for Public Utilities, or Tenure during Good Behavior," submitted to the New York Public Service Commission in 1908, a year and a half after the Wisconsin Public Utilities law had become effective, Dr. Milo R. Maltbie emphasized this feature of the indeterminate permit in the following language:

> The indeterminate franchise, or "tenure during good behavior," as it is sometimes called, briefly defined, is a franchise which may be terminated by the proper authorities at any time upon the payment of a fair compensation for the value of property thus taken, exclusive of franchise.
>
> There are many other provisions of importance which are necessary to the practical operation of the plan . . . . but the fundamental principle is the right of acquisition at any time at a reasonable cost. *This is the only way whereby a community can always and continuously control its own destinies and direct its own growth.* Governmental supervision of corporations is an effective weapon, but there are times when the desired results can be obtained only by the complete elimination of a given corporation or group of men, and then the right of purchase, to be followed by governmental operation or lease to another private corporation, is the only adequate remedy.

Further on in this report Dr. Maltbie refers to the indeterminate franchise as "the expression of the idea that a public utility is affected with a public interest in such a vital way that when it ceases to be operated in the public interest the franchise may be terminated, and that the representatives of the people may determine, and not the company, when that point has been reached." And Mr. Wherry, in his recent book, advocates the indeterminate permit from the point of view of the utilities, but nevertheless makes this statement: "The outstanding feature of the indeterminate permit, of course, is that it may be revoked at any time the company fails to perform its duty of rendering adequate and proper service for a fair, just and reasonable rate." [2]

And John H. Roemer, then chairman of the Wisconsin Railroad Commission, addressing the Southern Gas Convention at Mobile in April, 1914, made this statement: "From an economic standpoint an unlimited franchise, containing a provision that the municipality may revoke it at any time upon condition that it acquire the plant by paying to the company the reasonable value thereof,

[2] *Public Utilities and the Law*, p. 198.

is the only franchise that can possibly work out equitably to the interests of the public and the utility."

Theory Breaks Down Unless Municipality Has Adequate Financial Powers

From the point of view of the authorities whom I have quoted, it is apparent that the terminable feature of the indeterminate permit can be of no practical efficacy as a means of protecting the public interest against the abuses practiced by a particular company operating a utility in a given community, unless the municipality in fact has the financial ability to take over the property or has the power to cause the transfer of the property to another corporation or group of people upon practicable financial terms. Obviously, it is a mere mockery to say in the public utilities law of a given state that a municipality may terminate a public utility franchise at any time upon paying to the holder thereof the value of its property in cash as fixed by the state utilities commission, if the constitution of the state, or the general or special statutes restricting the municipality's financial powers have so limited those powers as to make it impossible for the municipality to raise the amount of money necessary for the purchase of the utilities, or even a single one of the utilities, operating within its limits. Such legislation keeps the word of promise to the ear but breaks it to the hope, and all thought of its efficacy as a guaranty of home rule or as a means of public protection against utility abuses may be summarily dismissed. Under such circumstances it is a special and particular outrage upon political good faith to misrepresent the character of this type of grant by calling it a "terminable" franchise or permit.

To all those who are interested either in the achievement of municipal ownership as a public policy, or in the achievement or preservation of municipal home rule with respect to utilities, the removal of the legal limitations upon municipal taxing and borrowing powers to whatever extent may be necessary to put the municipality in a position to acquire existing utility properties, is absolutely fundamental as a condition precedent to the adoption of the indeterminate permit as a franchise policy.

Those Opposed to Municipal Ownership and Home Rule Rely on Efficacy of State Control

On the other hand, from the standpoint of those who are opposed to municipal ownership under any circumstances, except possibly as a last desperate resort, and from the standpoint of those who have ceased to believe in the importance of local control over utilities, and who, on the contrary, believe that such control should be exercised chiefly or exclusively by state commissions, the feature of the indeterminate permit authorizing its termination by the municipality at will is regarded as a mere gesture for the purpose of creating some ultimate uneasiness in the hearts of the corporations. These people, in claiming that the indeterminate permit as a franchise policy gives ample protection to the public interests, rely, in reality, not upon the fact that theoretically the permit is subject to termination, but upon the fact that, as it has been worked out in Wisconsin and as it is being widely advocated by the utilities, the investment bankers, and the state commissions, the indeterminate permit is

incorporated as a part of a whole scheme of legislation designed to provide for continuous and effective public regulation through state authorities. In short, they support the indeterminate permit more because it works in easily with state regulation than because it affords a reasonable alternative to the public.

Here the theory of the indeterminate permit gets a long way afield from the recommendations of the Massachusetts committee of 1898. It develops a number of very important and far-reaching corollaries. First, it claims that the franchise grant should be substantially devoid of all terms and conditions and that the theory of regulation by contract should be entirely abandoned. Second, it provides that continuous regulatory power with relation to service, safety, rates, capitalization, accounting, and so forth, should be exercised, not by the local authorities directly representing the utilities' consumers, but by a "disinterested" commission with state-wide authority. Third, it insists upon the acceptance of the theory of monopoly in the ownership and operation of a given utility within any given community, subject to a limited power in the state commission to authorize competition in extreme cases. *Thus, the indeterminate permit is made to connote a whole new theory of public utility relations—a perpetual franchise, the abandonment of contract, exclusive state regulation, and protected monopoly.*

Effect of Indeterminate Permit in Indiana Frankly Stated

In an address before the Municipal League of Indiana in 1913, Thomas Duncan, first chairman of the Indiana Public Service Commission, described the theory of the indeterminate permit, as embodied in the public utilities law then recently enacted in that state, in the following words:

> The theory of the law upon which the indeterminate permit is based, is that as the two real contracting parties to the franchise are the state and the utility, they may mutually agree to change the agreement. The municipality granting the franchise acted only as an agent of the state. In tendering to the utility the indeterminate permit, the state passes over the head of the city, or the municipality, and deals directly with the utility. This it has a legal right to do.
>
> The effect of the indeterminate permit is to strike down all the provisions of the franchise and to give to the Commission full control of the utility under the Public Service Law of this State.

Wisconsin Indeterminate Permit in Relation to Municipal Home Rule

It is obvious that the indeterminate permit might be adopted as a feature of municipal franchise policy without in any way impinging upon the doctrine of municipal home rule, and without conferring regulatory powers upon a state commission. But as adopted in Wisconsin, Indiana, and certain other states, it is designed to transfer from the municipality to a state commission such powers of regulation and control as are, or might be, exercised through franchise grants. In answer to the charge that under the Wisconsin indeterminate permit cities are shorn of their power to control their local utilities, Halford Erickson, formerly chairman of the Wisconsin Railroad Commission, in a paper filed with the Federal Electric Railways Commission in 1919, enumerated the following powers as possessed by the municipalities under the Wisconsin utility laws:

> To regulate the quality of the service, the

extensions of the plant and other conditions in the first instance.

To grant or withhold permits for the use of its streets and highways for public utility purposes.

To cause the railroad commission to investigate the adequacy of the service and the reasonableness of the rates and other conditions and to require it to establish adequate service and reasonable rates and just conditions in other respects.

To acquire the property and business of the utility at the price fixed by the commission which price must be fair and equitable to all concerned; and to operate such utilities in the interest of the public.

To secure from the commission whenever conditions are such as to demand it, a certificate showing that public convenience and necessity require a second or competing utility, and to grant a permit to such competing utility authorizing it to use its streets and highways for public utility purposes.

But Mr. Erickson did not point out in connection with the municipality's alleged power to regulate the service of a public utility by contract, ordinance or other determination, the provision of the law to the effect that "upon complaint made by such public utility or by any qualified complainant" the commission shall set a hearing "and if it shall find such contract, ordinance or other determination to be unreasonable, such contract, ordinance or other determination shall be void." As to granting or withholding permits, the municipality has the right to decide with respect to a new utility, but having once admitted a utility to its streets the municipality never has a chance to reconsider its decision or to decide again, except by determining to buy the utility at a price to be fixed by the commission; and if it wants to try competition directly or through another company, it must first convince the commission that public convenience and necessity require it. It can cause the commission to investigate service and rates and "require" it to establish adequate service at reasonable rates, but the criterion is what the commission thinks, not what the municipality thinks. Even if the municipality takes over a utility for municipal ownership, it cannot operate it as it may see fit, but only under the control of the commission as to service and rates.

It is manifest that under the Wisconsin type of indeterminate permit, the protection of the public interests is almost wholly dependent upon the efficacy of state regulation. Where the municipality lacks financial power to acquire the utility, this dependence is absolute, under present laws.

Where Partial Home Rule Is Preserved under Indeterminate Permit

Under the Minnesota street-railway control act, the state commission has jurisdiction over rates, accounts, and capitalization, but the municipality retains the exclusive right to regulate service and to impose terms and conditions not inconsistent with the law in granting new franchises even though they are indeterminate permits. And the Louisiana law applicable to cities of 100,000 population gives the local authorities the power not only to grant indeterminate permits, but to impose terms and conditions in connection therewith. In cities where resettlement or service-at-cost franchises of indeterminate duration may be granted by the local authorities, the municipality enjoys varying degrees of power to impose enforceable terms and conditions, according to the extent of the state commission's jurisdiction with respect to franchise contracts.

One provision that was incorporated in the Chicago and Cleveland street-railway settlement ordinances, and that

is frequently advocated by the friends of municipal home rule, gives the municipality the right to terminate franchise, not solely as a step to municipal ownership and operation, but in the alternative as a way to get rid of the existing company by causing the property to be transferred to another grantee. This provision is intended to meet the situation where the municipality is financially or otherwise unprepared for municipal ownership and operation, but finds it intolerable to permit the existing company to remain in control of the utility. Even where a new licensee is permitted to take over an existing utility at the same price that the city would have to pay, it is doubtful whether this remedy for an unsatisfactory situation would be practicable except under very unusual circumstances. At the present time the property of a public utility subject to purchase under the terms of an indeterminate franchise would hardly be less than all the utility property of that particular class devoted to public service in the community. The investment in a utility having a monopoly of service in a modern city is so great in relation to the size of the community, and the financial powers interested in the ownership and operation of utilities generally are so closely affiliated, that there would not be one chance in a hundred of finding a group of men who would be able and willing to organize a new company and raise the necessary capital to take over and pay cash for an existing utility merely to satisfy the city's desire for a change in management. Where the city is financially able itself to acquire a utility, without doubt it would be comparatively easy to interest private parties in forming a corporation to lease the property for private operation, if the municipality was unprepared to undertake public operation as a permanent policy; but if the city itself is unable to finance the purchase, it can hardly expect to be able to get a new company to finance it.

Public Protection Depends at Present upon Municipal Ownership or State Control

After all, the extent to which local control may be exercised either through contract or through regulation, under the indeterminate permit as it has been worked out in practice thus far, is almost negligible. The predominant type of indeterminate permit is woven into a scheme of state regulation, and leaves very little room for municipal home rule in utility matters. As a practical problem, therefore, it may be said that the protection of the public interests under the indeterminate franchise is limited by the effectiveness of the alternative—the power of the municipality to achieve municipal ownership, or the will and the power of the state commission to provide such protection through continuous regulation. Broadly speaking, the municipality is impotent under the indeterminate permit and private operation.

It is unnecessary to add much to what has already been said about the efficacy of the threat of municipal ownership as a means of insuring good behavior on the part of a public service corporation under the indeterminate permit. If municipal ownership is adopted as a remedy in a particular case, that in itself ends the indeterminate permit, but the threat of municipal ownership will not be effective in checking a utility corporation if it knows that the public officials with whom it is dealing and the controlling public opinion of the town have

been educated to a belief that public ownership itself is a great calamity—something to be avoided till the last extremity. Clearly, those who take this attitude toward public ownership are not themselves going to make the threat of public ownership very effective as against a negligent or refractory utility corporation. Furthermore, a company that has grown "hard-boiled" in resisting public demands is not going to be scared into good behavior by the threat of municipal ownership when it knows that there is no practical way at present by which the municipality can get the money to pay for the property in compliance with the requirements of the provisions in the permit authorizing its termination.

If the purpose of this article were to work out the details of a plan for making an indeterminate permit actually terminable, a great many subjects would have to be considered. The liberalization or removal of general debt limitations, the authorization of bonds or certificates based upon the property of the utility alone with a security franchise to the bondholders for use in the event of foreclosure, the issuance of special bonds secured by the earnings of the utility, the exemption of self-sustaining bonds from the general debt limit, and other devices for enlarging a city's financial powers for public utility purposes, without giving it free rein in everything else, are of sufficient importance and complexity to be worthy of treatment in a separate article. In like manner, provisions for the amortization of the purchase price out of earnings during the period of private operation, purchase under contract on the partial-payment plan, taking the property over, subject to its outstanding indebtedness and other devices to avoid the necessity for paying in a lump sum in cash the full value of the property taken, could be elaborated to the extent of an independent discussion. All these problems are different aspects of the central one—that of making the municipal purchase option in indeterminate permits a real one by making its exercise financially possible. The extent to which a municipality is handicapped under an existing indeterminate permit law or contract in enforcing good behavior by the threat of termination is a matter that is comparatively obvious to those who are acquainted with the provisions of the permit and the financial condition of the municipality.

The most direct method of giving a municipality the financial power to take over a utility under an indeterminate permit is to exempt from the debt limit altogether bonds issued for the purchase and construction of public utilities which are to be operated on a self-sustaining basis. Also, the plan which was originated in the state of Washington in 1909, and which has been adopted to some extent in other northwestern states, is worthy of special consideration. This provides for the issuance of utility certificates with a first lien upon the earnings of the utility, and a contractual right vested in the certificate holders to compel the city to charge rates sufficient to take care of the interest and sinking-fund requirements of the outstanding certificates. The plan to amortize the purchase price out of earnings during the period of private operation tends to make it easier as time goes on for the city to exercise its option of purchase, but it does not give the city effective financial power from the start. This plan is better adapted to a program definitely looking to continued private ownership for a considerable time with

definite provision for ultimate municipal ownership. In some jurisdictions the commissions frown upon any scheme which would require the consumers to pay for the property, even where the community as a whole gets the benefit through public ownership.

Success of Indeterminate Permit and of State Regulation Closely Connected

If the option of municipal purchase is not really effective under present conditions, and is not made so by legislative or other action, then the success of the indeterminate permit idea in protecting public interests, while private ownership and operation are retained, hinges chiefly on the effectiveness of state regulation. The success or failure of state regulation is a complex subject demanding a great deal of careful thought and searching analysis. I can only summarize my conclusions here, based on many years of study, observation, and experience, that exclusive state regulation does not afford adequate protection to the public interests, and cannot do so in any ultimate or final sense, for the following reasons:

Cooperation of Local Authorities Necessary

1. Most public utilities are essentially urban and local in their nature, even where they have to go far afield for their sources of supply, and even where their operations over wide areas are centrally controlled. They are monopolistic, render services that are common public necessities, and are vitally related to the development of the city plan and to the other urban activities for which municipal government is responsible. Also they have to make use of the city streets in special ways peculiar to themselves and the city government. Hence the vitality of local service under local control is more important than yardstick uniformity imposed from outside.

Exclusive state control runs counter to these fundamental relationships and to the genius of political institutions where democracy prevails. The very nature of the problem of regulation requires full cooperation between state and local authorities; but such cooperation has not generally obtained and local interests have not been fully appreciated or heeded. It is true that an argument can be made on different grounds, but with much the same force, against exclusive local control; this, however, only proves the absurdity of the battledore and shuttlecock theory of regulation.

Regulatory Powers Incomplete

2. Even with all the broad powers conferred upon them in many states, the public service commissions still lack elements of authority necessary to complete a successful regulation of the utilities under present conditions. It is notorious, especially in natural gas, electric light and power, and the telephone, that the utilities are interstate in many of their activities, and the state commissions are without authority to regulate interstate commerce. It is a matter of easy observation also that the control over capitalization conferred upon the commissions usually, if not always, falls far short of being complete. Unless the commission has authority under the law to compel a utility to adjust its securities already outstanding to the ascertained value of its property or to the unimpaired investment therein, the requirement that fu-

ture stocks and bonds may be issued only for cash to be devoted exclusively to capital purposes is of little avail, either for the protection of the investors, or for the elimination of abuses in connection with valuation and rate proceedings. Yet the commissions as a rule do not possess the power to compel the reorganization of companies and the scaling down of their outstanding capitalization.

But of even greater importance, perhaps, is the fact that most of the operating utilities have fallen into the control of holding and management companies organized under the laws of other states and not subject to the jurisdiction of the commission of any state. Through these holding and management companies financial policies are controlled and in some cases financial expenditures concealed. Some companies, such as the American Telephone and Telegraph Company and the Electric Bond and Share Company, enter into contracts with their subsidiary operating companies for the payment of fixed rentals or management fees, and the expenditures made under these agreements are substantially beyond the control of the state commissions.[3] Moreover, in many cases, it is doubtful to what extent the commissions can go in the regulation of salaries and the control of other operating expenses where it is a matter of substituting their judgment for the judgment of the company's executives. This particular weakness is due partly to the lack of affirmative provisions in the utility laws and partly to constitutional limitations as interpreted by the courts.

[3] The American Telephone and Telegraph Company recently reduced its charges to subsidiaries, not as a direct result of a commission order, but as an indirect result of criticism made by commissions all over the country.

State Commissions in Politics

3. It is often said by friends of the utilities that whereas local control is a welter of politics, state control is non-political, expert, and only interested in even-handed justice between utilities and their patrons. But if one stops to think for a moment, how can one possibly maintain that the state governments in this country are less in politics than are the city governments? It is notorious that public service commissions in many states are at least as much the football of politics as are the city officials who operate municipal utilities. The real thought back of the clamor for state commissions as impartial bodies is that they will not feel themselves responsible to irate consumers whom the utilities are anxious to serve, but without having to come to terms with them. With great powers over interests that have money, the commissions are almost certain to get involved in the struggles of state politics, and if some consumers of a utility service try to bring their grievances into politics, naturally the utilities will likewise start a political counter-offensive. Indeed it seems inevitable that the state commissions present a stage where the utilities, by reason of their aggregate wealth, power, and self-interest, can play the game of politics at a great advantage over their isolated patrons. In short, to say that public service commissions offer a guaranty of freedom from politics is fatuous; the politics is merely of a different kind—utility politics rather than constituent politics.

Companies Have the Advantage in Presenting the Facts

4. Successful regulation of great public utility corporations, with their

properties and their services ramifying in every direction, with vast revenues flowing in continuously, with nation-wide alliances, and clearing-houses of technical information and expert service, is no simple and easy matter. The utilities stand ready at all times to save the commission from exerting itself. They stand ready to produce all the facts which they themselves declare to be pertinent, and to explain them to the commission, and to tell the commission what its duty is. But the more there is of this, the more the commission needs time, and money, and experience to do its own investigating, and get to the bottom of things. Very few states appropriate enough funds to enable the commissions to do their work independently. The only way for a commission to act quickly is to do what the companies tell it to do, and often the consumers as well as the utilities are impatient of delay.

If the commission depends upon the consumers or the municipalities to present the public side of the controversy, the evidence in most cases will be heavily one-sided. A group of consumers, or an individual municipality—perhaps a small one—or a loosely associated group of municipalities, working from the outside with no funds except what they "dig out of their jeans" with no hope of ever getting it back, are pitted against the companies having all the inside experience and knowledge, and able to tap the consumers' till with confidence that whatever they spend to defeat the consumers will be added to the cost of service and taxed back in the rates which the consumers themselves will have to pay. If the municipalities or the consumers spend a dollar of their own money, the utility will spend two and make them pay it in the bargain. Financial resources, experience, inside knowledge, expert affiliations, great things at stake and continuity of interest, combine to give the utilities an overwhelming advantage in the presentation of their cases before commissions and courts.

The Minnesota street-railway control act is exceptional in that it requires the municipality to present the public side of a rate case before the state commission, and provides that its expenses in doing so, within a rather liberal maximum, shall be reimbursed to it by the utility and charged to operating expenses. But the intervention of Federal courts, as will be shown presently, tends to destroy the effect of this provision.

The Atmosphere Created by the Utilities

5. Utilities, like other organized interests, seek to influence not only legislation but the selection of men charged with the administration of the laws; and after the commissioners are appointed, the utilities are assiduous in their attentions to them. The atmosphere created in this way is not conducive to impartial judgments. Usually it requires a definite and persistent effort to resist the influence of corporate representatives who are frequently among the big men of the community, well blessed with ability, knowledge and power, and often having a good deal of culture and many social graces. Then, too, it has become almost a habit for the utilities to take into their own fold and give employment to commissioners who have shown ability. It would be invidious in an article of this nature to call the roll, but of the making of utility counsel out of judges, commissioners, city attorneys, governors, and senators, and of

making judges out of utility counsel, there is no end.[4]

It cannot be gainsaid that such an atmosphere around the state commissions is one of the greatest obstacles to vitality in state regulation from the point of view of the consuming public. It takes experience, knowledge, character, and tremendous industry to fortify public service commissioners against these influences, and to enable them in fact to decide all questions that come before them with an eye single to the public interest in the broadest sense. These powerful private financial influences are always pulling and pressing them to lean in one direction, as the prevailing winds in exposed places tend to make the pine trees lean all one way. Public service commissioners need to know more about the utilities than the operating executives themselves; they need vastly greater courage, more independence, more vision, than men who are merely called upon to operate municipal utilities in the interest of the people who own them.

It is safe to say that nowhere do public service commissioners receive salaries equal to the salaries drawn by many of the utility men who appear before them. It seems anomalous that the lower-salaried men should be telling the higher-salaried men what they may and what they may not do. It is not to be expected that public service will command the same high financial rewards that often go to the magnates in the utility field; but when commissioners are paid inadequate salaries, there is a natural tendency for them to look with considerable awe upon the highly paid executives and counsel appearing before them, and, if they themselves are ambitious to get on in the world, to treat them with special consideration.

Whether we have state regulation, local regulation, or municipal operation, the payment of adequate salaries in view of all the conditions surrounding public service is vital to the highest success.

Jug-handled Jurisdiction of the Federal Courts

6. Finally, and most effective of all in crippling and destroying the power of state regulation, is the one-sided jurisdiction of Federal courts which prevents a consideration of the consumers' interests. After the commission, under mandate from the law to

[4] Merely to illustrate the above point, the reader may be interested in the situation with respect to counsel in the Minneapolis street-railway case when the Minnesota commission handed down its decision in 1925. (1) The high-priced special counsel who had been called in early in the case to keep the city from getting at the records of political expenditures by the holding company had been elevated to the United States Supreme Court and the authority of decisions written by him was being urged upon the commission. (2) Senior counsel in the active conduct of the case was an ex-judge of the state of Minnesota, and according to the universal American rule of once a judge always a judge, he daily enjoyed the distinction of being called "Judge" and the deference that is shown to one with that title. (3) The counsel upon whose shoulders fell the task of cross-examining the city's witnesses was an active state senator, who for many years had played the double rôle of counsel for the Twin City Rapid Transit group of companies and influential member of the dominant political party in the upper house of the legislature. His vote had helped to pass the street-railway control act by which the companies got their indeterminate permits and by which the state commission got its jurisdiction in the pending proceeding. (4) The last lawyer to join the company's forces was one who, at the inception of the case, had been a member of the commission itself, and had actively participated in the commission's early efforts to give the companies "relief." He continued to frequent the inner offices of the commission during recesses in the hearings as freely as if he had still been a member of that body.

fix just, reasonable, and sufficient rates, has made its decision, but before an appeal can be taken to the state courts for a review of the commission's findings as prescribed by the utilities law, the company may jump into the Federal court on a plea of confiscation. This transfers the whole issue into a court which has no jurisdiction to give adequate relief to the public. The Federal courts have no power to order a reduction in rates; they can only leave the commission's order as it stands, or declare it void as being unjust to the company. Neither the municipality nor the consumers can appeal to the Federal court from the order of the commission; only the utility can invoke that court's protection. And while the Federal courts retain jurisdiction of the case, all the way up to a decision by the United States Supreme Court, the state courts, which otherwise would have jurisdiction to give relief to either party, must stay their hand, and when the United States Supreme Court has handed down its decision, even if it overrules the company's plea, so much time has elapsed that ordinarily the facts have changed and the case is too stale for litigation in the state courts. It seems as though the Federal courts were the company's tribunals.

Without going into the reasoning of the Federal courts in these cases, it is clear that such a transfer of jurisdiction tends to paralyze state regulation.[5] Under these circumstances, the state commissioners would be more than human if they did not lean over backwards in an effort to satisfy the companies and keep them out of the Federal courts.

H. C. Spurr, editor of *Public Utility Reports Annotated,* has pointed out on behalf of the companies that the state commissioners are not prone to decide in their favor, and he proves it by the fact that the court reversals of commission decisions are almost always where the commissions have decided against the companies.[6] It is hard to have patience with such an argument in the light of the nature and effect of the Federal court's jurisdiction in these cases as just outlined.

An Illustration from Minnesota

The Minneapolis and St. Paul street-railway cases furnish a good illustration of the way in which Federal court jurisdiction handicaps state regulation. It is a known and admitted fact that the street-railway companies of Minnesota were chiefly instrumental in promoting the street-railway control bill in 1921, which incorporated the indeterminate permit idea. The act provides that either the municipality or the company may appeal to the district court for the county in which the street railway is operated, and from the district court to the state supreme court. In the district court the case will be heard *de novo* and decided on its merits. The law also provides that in the proceedings before the commission or before the court on appeal, the reasonable expenses incurred by the city within a certain maximum shall be recoverable from the company.

The proceedings before the commission in these cases were complicated and long-drawn out. As a matter of convenience the commission handed down its findings in valuation several months in advance of the final order covering

[5] This was pointed out by the Federal Court itself in the extreme case offered by the recent appeal of the New York Telephone Company, even in advance of the Public Service Commission's decision. *New York Times,* March 11, 1926.

[6] *Gas Age-Record,* July 21, 1923, p. 81.

rate of return, operating revenues, expenses and rates of fare. It was known that the city of Minneapolis would appeal to the state court as soon as an order was filed from which an appeal could be taken. The company had the same privilege, but it knew that if the case were to be reviewed in the state courts it would have to reimburse the city for the expenses of the litigation and that the court might reduce the valuation, rate of return, and rate of fare as fixed by the commission. Hence it was to the interest of the company not to allow the case to get into the state courts at all. The advance finding of the valuation played into its hands, so that before the final order it was able to prepare an elaborate complaint charging confiscation, and to file this complaint in Federal court before the city could perfect its statutory appeal to the district court. The Federal court took jurisdiction, and the city was faced with a long-drawn-out battle in a court where its only possible success would be in defending the commission's order from which it desired to appeal, and where it would have to pay all of its own expenses for which it had made no provision, relying as it had upon the terms of the statute which the company itself had promoted.

Under these conditions the city council began to talk "settlement," and the company offered to shorten the proceedings in the Federal court in case the city would enter into a joint stipulation accepting the commission's findings on a number of important issues where the commission had decided in the company's favor or where the company had little or no chance to improve its position, leaving the other issues to be fought out *de novo*. In opposing the acceptance of this kind of an offer, City Attorney Neil M. Cronin told the street-railway committee of the city council:

> The very act under which the street-car company operates and the act which the company was glad to see passed provides for relief in the state courts. But the company went into Federal court because it can give the company relief but not the city. This proposal handicaps the city. What the company is asking for is that we play this football game, with the ball on the city's 10-yard line, and give the company the ball. Not only that, but that the umpire can penalize the city, but not the company.[7]

The upshot of the matter in this case was that the city was forced by circumstances to seek a settlement on the basis of the commission's findings and was denied the right to review them in court as provided by law. The commission had gone so far in favoring the company in order to keep the case out of the Federal courts that the company could well acquiesce in a settlement on the commission's basis, after it had stopped the city's appeal by its Federal court manœuver.

The Proposed Terminable Permit Law in Illinois

After the defeat of Mayor Dever's plan for the settlement of the Chicago traction problem in April, 1925, the utility interests of Illinois promoted an indeterminate or, as it was called, a "terminable" permit bill in the legislature. If this bill had been enacted, it would have given to every public utility in the state the right to give up its existing franchises and take a terminable permit in place of them. Coupled with the existing provisions of law in Illinois, this would have freed the utilities from practically all the restrictions contained in municipal franchise grants

[7] Minneapolis *Journal*, October 6, 1925.

and relieved the utilities from ever coming before the local authorities for a renewal of their franchises. In one important respect the franchise situation would have continued to be different from that in Wisconsin, for neither the existing utility laws nor the proposed terminable permit law in Illinois would give a utility a monopoly protected against municipal competition. Under existing financial restrictions upon the indebtedness of cities the "terminable" permit in Illinois would be practically interminable; for under the constitution municipal debt is limited to 5% of the taxable value of property, and by general law the assessments are limited to 50% of the true value. Thus the effective legal limitation upon the indebtedness of any municipality for all purposes is only 2½% of the full value of taxable property.

The Policy of Protecting Consumers' Interests by an Effective Indeterminate Permit

The indeterminate franchise in its inception was advocated by able and public-spirited men as a means of escape from the admitted evils of the perpetual franchise on the one hand and of the short-term franchise on the other. It was advocated as a working program under which public service corporations would be free to render the best possible service at the lowest possible cost, with security to the investors, an ample inflow of new capital, and continuity of physical upkeep and expansion. On the assumption that the interests of the companies and the interests of the public are fundamentally the same, there would be no argument against the perpetual franchise. It would merely be the type of a grant under which the companies would have the best possible chance to perform public service. And even if there is a fundamental divergence of interest, so long as dependence is placed solely or mainly on state regulation to make the companies act in the public interest instead of their own, regulation can be substantially as effective under a perpetual permit as under an indeterminate one that nobody wants to terminate. The rights of investors, certainly, can be as well protected under a perpetual franchise as under an indeterminate one. The effect of the type of franchise, or the character of ownership, upon the interests of the employees, is not clear, except that the employees may be better off if the utility is prosperous than if it is not, and they may be better off if the management is responsive or responsible to public opinion than otherwise.

The chief issue with respect to perpetual franchises, indeterminate permits, and public ownership is between the consumers, who in the main comprise the entire community—investors, employees, and all—and the manipulators of stocks and bonds and corporate power. These latter are seeking to get rich and are claiming the right of speculative profit in public utility development and operations. They are brokers in economic, social, and political power. They do not believe in democracy in a real sense. To them government is good only as a guarantor of special privileges and as a defense against the activities and influence of democracy. In a broad sense the interests of the consumers as a body are the public interests. The investors, the employees, and even the manipulators are a part of the body of consumers, and as such are entitled to due consideration. But the theory of public utilities, connoted

by the very name, is that they exist for the consumers, for the people whom they serve, and every interest other than the public interest is incidental and subordinate. Figuratively, public service corporations are domesticated animals; they have no right to be wild horses of the desert or mad elephants or sacred bulls. Their job is to work for us, and our job is to feed them well and give them shelter and doctor them when they are sick, not for their sake, but for our own.

The indeterminate permit is a good type of franchise, if it is easily terminable—not in legal theory only, but in practical financial fact. It is a good type of franchise if it develops and preserves the practice of municipal responsibility, and if it facilitates the achievement of public ownership as an alternative, under sound economic and political conditions. The writer's opinion is that these requirements cannot be met under the present system of state regulation and that the best chance of making the indeterminate permit subserve the public interest is in working out a system of decentralized control with a carefully conceived plan of lien financing or gradual acquisition. If, on the other hand, the indeterminate permit tends to perpetuate a system of unrestrained private ownership and operation of public services, based upon an irrepressible and eternal conflict of interests, until the community in desperation is in a mood to commit harakiri, it is not a good type of franchise.

LAND VALUES AND POPULATION

By ARTHUR J. MERTZKE

TO find localities in which population and land values are both increasing is a very common experience. Indeed these two phenomena occur together so frequently that economists, as well as those who have not specialized in the study of business affairs, have without question accepted the idea that changes in land values are directly related to changes in population. Alfred Marshall expressed the current impression when he wrote, "Site value is expected to rise in consequence of a growth in population."[1]

To what extent is this general assumption scientifically valid? Is it merely a rule-of-thumb principle, based on casual observation? No adequate statistical analysis of the problem has come to the writer's attention. It may be appropriate, therefore, to place side by side changes of land values and of population in a number of communities over a period of years, in order to test the validity of this popular explanation of land values.

Scientific procedure means that we first look and see what the facts are, and then let an analysis of our findings lead to whatever conclusions are justified by the facts. Such an undertaking could scarcely lay claim to any degree of soundness if it took for its aim the proof or disproof of any particular proposition set down in advance, because in a field with such an abundance of facts of all varieties almost any conceivable view, however incorrect when held up in the light of *all* the facts, could be defended by selecting instances that would support it. The problem before us in this instance, therefore, can be stated merely as an open question: What functional relationship, if any, is there between changes in urban population and changes in urban land values?

In an endeavor to throw some light upon this question a statistical investigation of changes of land values over a period of 21 years, in 37 Wisconsin cities each having a population of 5,000 or more, was undertaken in order to measure the degree of correlation between the changes in population and the changes in land values in these cities.

Estimating Market Values of Land

It was necessary first of all to compile data showing the changes of the market values of land from 1902 to 1922, for the purpose of securing an objective measure of changes in land values during this period. No attempt was made to determine the earning power or income secured from the land, but merely to measure the actual changes in the capital value of the land itself as reflected in the market prices of land.

The method used for computing the estimated market value was as follows: In each city the first data secured were the annual assessed valuations of all land in the city, exclusive of improvements. With the exception of Kenosha and Racine, the area studied in each of the 37 cities was constant throughout the period of the investigation, and

[1] Marshall, Alfred, *Principles of Economics*, 5th edition, p. 442.

in most cases coincided with the legal boundaries of the cities.[2]

Since the assessed valuation of land frequently varies considerably from the selling value, it was necessary to find a method that would give an estimated market value of the entire land area of the city. This was done by means of sales records taken from the files of the State Tax Commission. All the selling prices of vacant properties upon which the Tax Commission had verified the considerations involved were totaled and compared with the total assessed valuation of the same properties. This method provided a ratio of assessed value to selling value, which was applied to the total assessed valuation of land in the city for the same year, on the assumption that the parcels sold in any year would, in general, reflect the value of all land in the city.[3] Granting, however, that many of the vacant parcels sold were not really representative sites, they would, in all probability, reflect *relative* changes in land values with sufficient accuracy for our purpose. When it was found, for example, that in a given year all vacant parcels sold in a given city had, on the average, been assessed at 90% of their selling value, this percentage was used to correct the assessed valuation of the land area included in the study. In this way the assessed valuation of the land, exclusive of improvements, in the city was corrected year by year.

In order to show the *relative* changes from year to year more clearly, the corrected or estimated market values of land for the city were then converted into percentages, using the first year of the period, 1902, as a base. By expressing the change of value from year to year in terms of percentages the picture is made clearer because the method employed was intended to bring out *relative* changes in value rather than accurate market values.

In this study no attempt has been made to correct changes in land values for changes in the purchasing power of money. In order to do this accurately it would be necessary to compute an index number for each city which would measure the local changes in the purchasing power of money, on the basis of which the index of the market values of land could be corrected. The necessity for doing that is obviated in this case because we are not comparing changes in land values with changes in population in one city alone. In reality we are comparing the ratios of changes in land values to changes in population *among* cities. Thus, if in city *A* land values in a given period have doubled while population has remained constant, whereas in city *B* land values have doubled while population has increased, let us say, 50%, we have evidence of a disproportionate change in land values as compared with the change in population.

[2] In Appleton, Madison, Milwaukee, and Superior, selected portions of the city were studied in order to compare changes in value of residential, industrial, and commercial districts.

[3] The author is indebted for this method of estimating land values to the late Mr. T. A. Polleys, Commissioner of Taxation of the Chicago and Northwestern Railway, who employed it extensively as a means of securing evidence to present to courts and commissions, by which these estimates were accepted as the most reliable.

In order to test this method the author secured from the American Appraisal Company and the Milwaukee Real Estate Board their appraisals of the sites of improved properties in Milwaukee year by year, and computed a ratio of assessed valuation to the appraised valuation as a means of correcting the general assessment figures. The relative estimates derived in this way were very similar to those computed on the basis of vacant land sales.

Comparison with Changes in Population

To facilitate comparison between changes in population and changes in land values, the cities covered by this investigation were grouped into six classes on the basis of the average increase or decrease in population per decade for the two decades from 1900 to 1920.

The indexes of land values in each city shown in Table I were grouped as indicated in Table II, and then an average annual change for each group of cities was calculated. This result is given in Chart I. Table III gives the data on which the chart is based.

Cities with Decreasing Population

It will be observed that in the group of cities with declining populations the average value of land fluctuated rather widely but never rose higher than 162 in comparison with the values of the base year, 1902. Table I shows that the indexes of the five cities comprising this group are very dissimilar. The index number for Ashland immediately after 1902 fell below 100 and never came up to this point again with the exception of one year, 1912, when it reached 106. Similar to the Ashland series is that of Baraboo shown in Table I. Land values in Baraboo fluctuated above and below the 100 point, ending in 1922 with 90. Markedly different are the series for Marinette and Merrill. In both these cities the indexes of land values rose with fair rapidity. Menomonee, however, is in a class by itself in this group, for its index of land values rose with approximately the same rapidity as those of cities like Madison and Milwaukee, as is shown by its place in Table IV, in which cities are grouped according to the average increase in their land values.

TABLE I. INDEXES OF ESTIMATED TRUE VALUE OF LAND EXCLUSIVE OF BUILDINGS IN 37 WISCONSIN CITIES, 1902-1922

Base: 1902

Year	Antigo	Appleton	Ashland	Baraboo	Beloit	Chippewa Falls	Cudahy	De Pere	Eau Claire	Fond du Lac	Green Bay	Janesville	Kaukauna	Kenosha	La Crosse	Madison	Marinette	Manitowoc	Marshfield
1902	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1903	129	108	86	101	96	107	114	100	111	108	105	99	139	106	112	112	104	113	109
1904	156	111	75	101	95	95	128	109	138	151	109	111	170	109	110	117	110	118	114
1905	161	117	69	91	112	103	132	118	136	130	115	105	145	135	112	117	121	117	100
1906	163	112	82	111	121	114	172	235	185	188	125	116	142	145	111	131	122	111	97
1907	173	113	92	95	132	105	186	348	197	126	135	116	153	156	117	137	122	113	105
1908	185	119	76	104	138	89	193	314	218	89	149	120	146	157	114	136	119	97	95
1909	232	120	83	116	148	143	163	322	197	93	140	109	120	151	123	199	150	103	111
1910	201	126	84	106	159	154	186	414	195	95	129	117	104	163	115	169	145	80	108
1911	199	124	81	106	135	106	209	387	207	94	149	139	133	205	130	197	132	157	122
1912	188	115	106	111	128	103	167	339	231	94	168	147	219	274	106	199	132	95	105
1913	210	133	94	103	140	134	159	364	238	99	159	122	147	257	110	228	134	89	119
1914	246	130	92	115	136	108	191	348	206	108	154	128	163	265	122	199	146	75	108
1915	282	130	80	94	133	140	219	375	266	114	164	136	135	311	115	199	109	86	119
1916	247	141	77	119	125	132	210	471	278	119	151	123	139	339	126	224	131	84	111
1917	216	136	79	80	174	102	192	431	283	94	186	114	176	334	141	233	163	82	111
1918	194	134	79	111	162	89	221	443	306	126	204	133	188	365	126	229	157	94	128
1919	234	155	86	154	182	96	212	452	350	148	192	206	166	391	136	250	149	104	175
1920	251	162	87	117	182	83	281	436	542	162	198	245	171	551	157	245	151	110	207
1921	289	178	68	99	168	154	290	511	538	179	196	214	192	608	152	254	171	126	199
1922	227	207	79	90	224	200	394	445	509	168	201	270	211	525	152	268	157	126	195

Cities Having 0% to 15% Increase in Population per Decade

The average index number of land values in the 13 cities in which population increased from 0% to 15% per decade shows a decided upward movement between 1902 and 1910, followed by 8 years of very slowly rising values from 1910 to 1918, with a rapid upward movement from 1918 to 1922. Throughout the period of the investigation the average values in this group of cities rose with more than double the rapidity of the average values in the group declining in population.

Upon consulting the indexes of individual cities in Table I we observe again that in this group of 13 cities (see Table II) having relatively stationary populations, very different rates of increase in land values occurred. Thus while values in Chippewa Falls and Oshkosh showed a small increase, values in Appleton and Kaukauna moved upward with considerable rapidity, while those of De Pere, Eau Claire, Menasha, and Neenah increased very rapidly. In Table IV, showing cities grouped according to the average increase in land values, we find that cities with relatively stationary populations represent some of the smallest, as well as some of the largest, increases in land values.

Cities Having 15% to 30% Increase in Population per Decade

The average index from 1902 to 1922 of land values in the group of cities which increased in population per decade from 15% to 30% moves very curiously with respect to similar figures for the cities increasing from 0% to 15% per decade, as will be observed by comparing the curves on Chart I. The average index of land values for this group of 9 cities falls about midway between that of the group declin-

TABLE I *(Continued)*. INDEXES OF ESTIMATED TRUE VALUE OF LAND EXCLUSIVE OF BUILDINGS IN 37 WISCONSIN CITIES, 1902-1922

Base: 1902

Year	Menasha	Menomonee	Merrill	Milwaukee	Neenah	Oshkosh	Portage	Rhinelander	Racine	South Milwaukee	Sheboygan	Superior	Two Rivers	Watertown	Waukesha	Wausau	Wauwatosa	West Allis
1902	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1903	114	112	104	104	144	105	105	117	106	106	105	95	120	96	118	125	90	116
1904	132	124	129	108	209	112	106	132	119	110	99	101	130	106	105	142	111	187
1905	146	100	127	120	210	109	118	156	121	103	108	92	126	111	118	164	113	233
1906	157	116	141	131	227	127	118	164	118	103	105	98	126	121	114	192	119	211
1907	165	149	113	140	222	123	114	174	128	106	97	115	128	140	113	203	106	265
1908	162	129	115	146	205	147	123	173	128	60	93	112	146	142	115	203	127	226
1909	134	140	147	141	177	132	114	218	120	84	97	128	126	124	83	217	110	238
1910	188	135	116	149	222	116	119	192	147	66	117	140	111	196	95	212	147	297
1911	193	126	85	153	246	149	153	224	189	92	113	126	88	162	114	212	153	267
1912	115	142	116	164	228	149	148	198	185	125	120	175	131	139	120	227	143	263
1913	154	143	103	158	249	114	124	237	207	95	129	180	132	169	100	187	163	282
1914	200	176	118	168	234	135	141	227	215	87	127	169	127	155	126	232	150	307
1915	214	204	164	177	264	126	163	211	221	99	127	167	124	174	127	302	156	276
1916	235	250	112	166	276	142	124	263	262	84	136	175	145	171	137	226	154	318
1917	262	146	128	172	257	121	121	269	260	96	147	197	139	175	146	256	185	264
1918	223	225	240	189	259	120	149	293	272	110	134	155	149	150	143	310	195	340
1919	317	192	206	176	309	152	126	307	291	103	158	178	198	147	166	262	222	419
1920	298	193	174	217	338	153	185	461	375	108	152	189	231	175	196	260	339	599
1921	346	166	179	176	367	145	163	419	356	118	180	164	208	190	196	317	328	610
1922	400	227	215	255	508	119	154	417	384	121	182	166	212	157	189	381	332	526

ing in population and that of the group increasing from 0% to 15% per decade. According to the generally accepted view of the relation of population growth to urban land values, the values in these cities should have risen more rapidly than those in the preceding group.

In this same group of cities (increasing in population from 15% to 30% per decade) we again note a wide divergence in the rates of increase in land values. In this group Manitowoc has the lowest rate of increase; its index number for 9 out of the 21 years of the period is below 100, and with the exception of one year, 1911, when it reached 157, never rose above 126, which is the figure for 1921 and 1922. At the other extreme in this group are Rhinelander and Wausau, whose values increased several hundred per cent from 1902 to 1922.

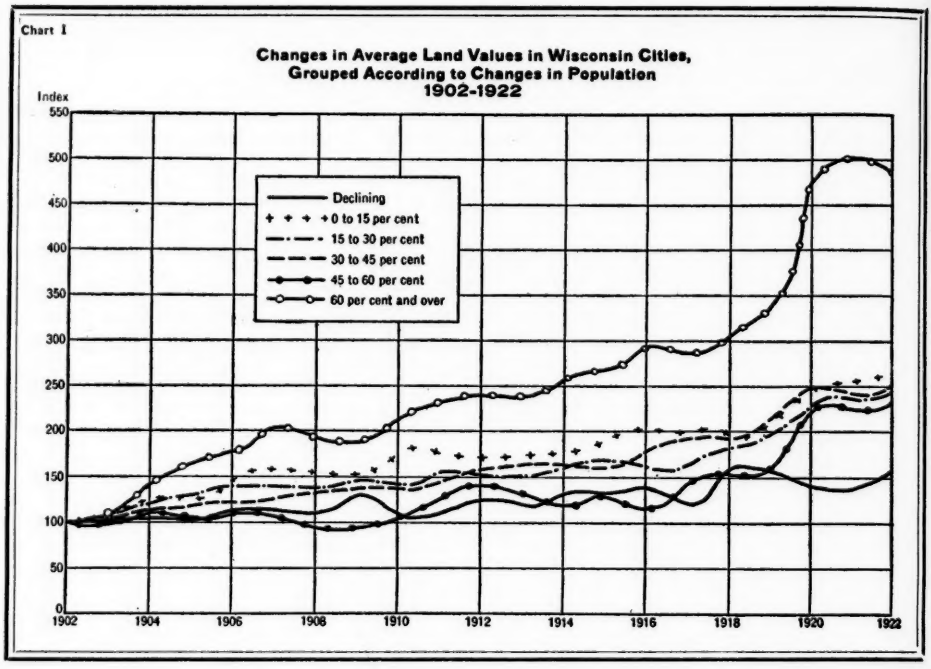
Cities Having 30% to 45% Increase in Population per Decade

The average index of land values of the group of five cities which showed an average increase in population of 30% to 45% per decade, fluctuates less than that of any other group, as will be noted by observing the curve on Chart I. The peculiarity of this curve is the fact that from 1902 to 1912, and again in 1915, it falls below that of both the previous groups, which have lower rates of increase in population, and for the last five years approximately coincided with the curve representing cities whose rate of population increase was 0% to 15% per decade.

In this group of cities the variations in the increase of land values are less extreme than in the groups already described. From Table IV we note that the cities of Beloit and Waukesha represent the smallest increases, falling within the range of approximately 75% to 100%. Land values in Madison and Two Rivers increased more rapidly, showing a rise ranging from 100% to 200%. Of these two the more steady increase in values occurred in Madison, where, with the exception of two marked jumps in value in 1909 and in 1913, land values showed a strong, steady growth. Racine, with the largest increase in value, is to some extent misrepresented here, on account of the fact that the index of land values is based on the total area of the city each year, which according to figures obtained from the Census Bureau expanded from 2,960 acres in 1904 to 3,858 acres in 1923. The value per acre of the additions was relatively small as compared with the value per acre of the original area; but nevertheless their value does exaggerate the rise of the index to some degree. One may seriously doubt whether, in spite of the rapid rise in values of land that was found by personal inquiry in Racine, the city ought to be retained in a study of this sort, on account of the fact that the data are open to misinterpretations when placed beside figures for other cities.

Cities Having 45% to 60% Increase in Population per Decade

The average index of land values in the two cities in this group is the lowest of all the groups for about half of the period covered (11 years out of 21) and fluctuates above and below that for the cities declining in population. This is due to the fact that land values in South Milwaukee, taking the period studied as a whole, have declined. For 9 years of the period its index of land



values was below 100, and a maximum height of 125 was reached in 1912. The index of land values in Wauwatosa shows a strong, steady increase from 100 in 1902 to 332 in 1922. Here as in earlier groups, we find a striking dissimilarity in movement of land values in cities that are increasing in population at similar rates.

Cities Having 60% or Over Increase in Population per Decade

The average index of land values in the three cities comprising this group rose more markedly than that of any other group, as can be seen by noting the curve on Chart I. The index obtained for Kenosha is open to the same criticism as that already made in connection with Racine. Kenosha added to the original area of 1,202 acres in 1902 a total of 2,452.2 acres by 15 annexations ranging from 2.3 acres to 960 acres in size. The total area annexed in this case is more than double the original area in 1902, and the resultant figures obtained as index of land values are, therefore, of most doubtful character. They are here presented only because by personal inquiry in Kenosha it was learned that land values there had increased very rapidly, although the figures as they stand exaggerate the increase very much. A fixed area was not studied in this case because numerous shifts in ward boundaries would have made the compilation of the data for the original area an undertaking involving prohibitive expense.

Land values in Cudahy and West Allis, both adjacent to Milwaukee, have increased rapidly primarily on account of their proximity to the cramped parent-city of Milwaukee. In these

two cities all the factors that affect land values are so bound up with the overshadowing fact of their position adjacent to a large, crowded, and growing city that even the change in population itself cannot be explained by looking at these cities apart from Milwaukee.

Correlation of Changes in Land Values and Population

A summary of these groups of cities is given in Table IV, page 353, which shows their distribution according to increase in population and increase in land values. If land values varied directly with population, cities should be grouped along a line drawn diagonally across the table from the lower left to the upper right-hand corner.

If we draw in imagination this diagonal line of equal variation, we will notice a considerable scattering of cities with reference to it. In the cities of Beloit, Chippewa Falls, Cudahy, Manitowoc, Oshkosh, Sheboygan, South Milwaukee, and Waukesha, land values have increased less than would be expected if growth of population primarily determined values. More surprising still is the group whose land values have risen out of proportion to their growth in population. The most conspicuous examples are De Pere, Eau Claire, Menasha, Menomonee, Neenah, and Rhinelander. Almost as striking is the lack of correlation between land values and population of Kaukauna, Merrill, and Wausau. Moreover, Antigo, Appleton, Janesville, Marinette, Milwaukee, and Racine show land values increasing faster than population, but these are nearer what might be called border-line cases.

The Pearsonian coefficient of correlation of changes in land values and changes in population is .557, with a probable error of .0775.

In order to see whether the size of the city had any marked effect upon the rate of increase in land values, an arithmetical average was constructed on the basis of three groups of cities: Those having in 1920 a population of 5,000 to 10,000; those having in 1920 a population of 10,000 to 25,000; and those having in 1920 a population of 25,000 or over. The results warrant no different conclusion on this question, since the curves run closely parallel and cross and recross each other, indicating that sometimes land values in the smaller cities increase more and, at other times, less rapidly than land values in larger cities.

Changes in Land Values According to Uses of Land

In the cities of Appleton, Madison, Milwaukee, and Superior, data were compiled by wards or other subdivisions which gave a rough basis for comparing the rates of increase in land values of residential, industrial, and commercial areas. From a comparison of land-value changes in these different areas in the four cities, two points of considerable importance were obtained: First, the lack of any correlation between rate of growth of population and the rates of increase in land values in any of the three types of land utilization; second, the relative differences in rates of increase of residential, industrial, and commercial land values.

In general, the results obtained in these four cities show that residential land values tended to remain practically stationary. The exception to this rule in the case of residential lands occurs in developing sections of the city where

land is passing from a lower to a higher use. Thus in the new subdivisions of Madison and Milwaukee, lands that during the period studied were being developed into high-grade subdivisions show marked increases in value. On the other hand, in the low-grade residential section of Milwaukee land values slowly but steadily declined. The same tendency was observed in Superior.

Industrial land values apparently move upward at about the same rate as do the average land values for the entire city—midway between the slowly rising residential land values and the rapidly rising commercial land values.

In the commercial districts, however, we observe the greatest percentage increase in land values. In three out of four cities where lands were classified by use, it was found that commercial land values rose decidedly more rapidly than did the average land values for the cities as a whole. One exception to this was found in the case of Appleton, in which the average increase for the city as a whole, as a result of the rapid increase in value of the industrial wards, was greater than that of the Commercial ward at the heart of the city.

No correlation was found between these changes in land values and changes in population. In Appleton values of residential land rose much more rapidly than those in either Madison or Milwaukee. On the other hand, commercial land values rose most rapidly in Milwaukee. Next in order come those of Madison, Superior, and Appleton.

While these results show different rates of change in residential, industrial, and commercial land values, they show little if anything that would support a theory which says that there is a definite ratio between growth in population and increase in land values.

Such are the facts objectively compiled from all cities in Wisconsin having in 1920 a population of 5,000 or over, with the exception of three or four smaller cities from which no data were obtainable by correspondence. The findings here set forth are but a small portion of the data needed to establish fully the principles suggested by the facts here submitted. In the following observations, based in part upon the writer's knowledge of the geographic and historical background of

TABLE II. WISCONSIN CITIES CLASSIFIED ACCORDING TO CHANGE IN POPULATION PER DECADE, 1900-1920*

DECREASING	INCREASING				
	0%—15%	15%—30%	30%—45%	45%—60%	60% and Over
Ashland	Chippewa Falls	Manitowoc	Beloit	So. Milwaukee	Cudahy
Baraboo	Oshkosh	Sheboygan	Waukesha	Wauwatosa	West Allis
Marinette	Fond du Lac	Green Bay	Madison		Kenosha
Merrill	La Crosse	Marshfield	Two Rivers		
Menomonee	Portage	Antigo	Racine		
	Superior	Janesville			
	Watertown	Milwaukee			
	Appleton	Wausau			
	Kaukauna	Rhinelander			
	De Pere				
	Eau Claire				
	Menasha				
	Neenah				

Wisconsin cities, the purpose is merely to sketch in a general way some of the factors to be considered in a discussion of urban land values. These will need to be more fully studied before general conclusions can be formulated.

Influential Factors Other Than Population

The distribution of cities in Table IV leaves no doubt as to one thing, namely, that *other factors* than population have a great deal to do with urban land values. The prevailing view that urban land values are a consequence of population apparently minimizes too much, if it does not overlook altogether, the very important point that factors other than population may primarily affect site values. Indeed these may be of such importance as to outweigh population as a factor, if not to rule it out as a *casual* factor altogether.

That urban land values and population bear some relationship to one another is common knowledge. High values and concentrated population as a rule occur together. The correlation between the two is not perfect, but the lack of correlation might be explained by some "disturbing factor." This well-known coincidence of high values and large population has become so familiar that few people question the cause and effect relations between the two, so inseparably are they associated in the minds of many people. On this point one may easily slip into grave error leading to dangerous mistakes. It is necessary, therefore, to see clearly what the real causes of urban land values are, and to understand how population is related to them.

With a general increase in population one of two things (or both) may happen: Either the standard of living may decline, with no greater demand for land than before, or there may be such progress as to meet the needs of all at a uniform or increasing standard of living. If the latter is the case, the demand for land for all uses—agriculture, forestry, mining, transport, industry, commerce, and residence—will increase. Thus we may say that increasing population in a progressive society will tend to increase the value of all types of land.

Men seeking economic opportunities are likely to choose, first of all, among occupations. Having selected one, the next choice is that of location. Some occupations that require land can be carried on only at certain places; others may be carried on almost anywhere over a wide area. Running a farm or even a grocery store has a wide geographic range; operating a steel mill or a shipbuilding yard is confined to much narrower limits.

Competition for Land Offering Profitable Opportunities

Cities spring up and flourish where the maximum number of profitable opportunities can be found in a small area. These are determined by a wide variety of circumstances. Among them is the general growth of population in the nation and the world. In order to satisfy demands of all sorts most effectively, men seek the most advantageous locations for carrying on their enterprises. Thus are developed mining districts, agricultural sections, and cities. The valuable opportunities which cities have to offer attract men, who compete for locations until a very large proportion of the present and expected earn-

TABLE III. AVERAGE INDEXES OF URBAN LAND VALUES IN 37 WISCONSIN CITIES, GROUPED ACCORDING TO AVERAGE RATES OF GROWTH IN POPULATION PER DECADE, 1902-1922

YEAR	DECREASING	INCREASING					AVERAGE OF ALL CITIES
		0—15%	15—30%	30—45%	45—60%	60% and Over	
1902	100	100	100	100	100	100	100
1903	101	111	111	110	98	112	107
1904	108	125	124	113	111	141	121
1905	102	126	128	119	108	167	143
1906	114	145	139	122	111	176	135
1907	114	159	138	128	106	202	161
1908	109	158	135	133	94	192	137
1909	127	153	146	135	97	184	140
1910	107	174	140	136	107	215	147
1911	106	176	156	145	123	227	174
1912	121	172	151	153	134	235	161
1913	115	174	151	161	129	233	162
1914	129	176	157	161	119	254	166
1915	130	189	172	161	128	269	191
1916	138	201	163	179	119	289	182
1917	119	200	165	190	141	283	183
1918	162	195	180	191	153	309	198
1919	157	216	196	217	163	341	215
1920	144	241	226	246	224	477	260
1921	137	258	230	236	223	503	265
1922	154	269	242	255	227	482	272

ing power of the site, and sometimes more, is offered as a price for the land. In addition to the prices paid for the sites, heavy expenditures are incurred for the development and improvement of the best locations for the purpose of obtaining from the land the maximum services it can render. These activities tend to bring about the most intensive utilization, thereby leading to the maximum social service to which it is economically possible to put the land, and stimulate competition for sites which determines their values.

In a sense it seems unnecessary thus to look behind population for the cause of urban land values. But to stop with population as the cause of values in any given city leaves open the most important question of all, namely, what factors determine the location of any city. Is it chance? Evidently not. Every one knows that the reason Madison, Wisconsin, has but a small fraction of the number of people living in New York is that Madison affords fewer basic opportunities than New York, and, therefore, attracts a smaller number of people.

Some of these opportunities are determined by important natural features. Others are the product of will and initiative. In either case, they produce a similar result. Men seek places that offer the opportunities they desire, and the more numerous and the greater the opportunities, the larger the number of competitors and the higher the bids for these locations will be.

Thus the demand for sites in New York is made up of elements from all over the earth, as far as the products

of New York's enterprise can find a market. The subscriber of the *New York Times* in China contributes as much to the value of Times Square as the subscriber in New York City itself. Every city is a focal point in which are concentrated a number of opportunities for profit and gain in one form or other, and such a combination of circumstances enables every city in effect to absorb a great amount of the values of the entire region that constitute its sources of supplies, and its markets. For that reason primarily cities are keenly interested in every project that tends to improve or impair their advantageous positions.

This enables us to see also that values may rise very rapidly even though population is increasing slowly, as is the case in Eau Claire and other cities in Wisconsin. If the business opportunities of a city multiply, due to its development as a commercial center and distributing point, its site values will rise even though wages, and hence the number of workers attracted, do not rise to any marked extent.

Resort cities offer a special kind of opportunity that gives value to lands that might never be developed if they waited for industrial or ordinary commercial enterprise. But since they offer a combination of features that people enjoy—the ocean, mountains, sunshine, recreational facilities in shops, hotels, and theaters, and a particular type of social life—site values emerge for the same reason as in all other cities, because it is a center of opportunities.

TABLE IV. CORRELATION BETWEEN PERCENTAGE INCREASE IN POPULATION PER DECADE AND PERCENTAGE INCREASE IN LAND VALUES IN 37 WISCONSIN CITIES, 1902-1922

Percentage Increase in Population per Decade	Percentage Increase in Land Values					
	0—50	50—75	75—100	100—200	200—300	300 and Over
60 and over.....					Cudahy	Kenosha West Allis
45—60.....	S. Milwaukee				Wauwatosa	
30—45.....			Beloit Waukesha	Madison Two Rivers	Racine	
15—30.....	Manitowoc	Sheboygan Fond du Lac	Green Bay Marshfield	Antigo Janesville Milwaukee	Wausau	Rhinelander
0—15.....	Chippewa Falls Oshkosh	La Crosse Portage Superior Watertown	Appleton	Kaukauna		De Pere Eau Claire Menasha Neenah
Decreasing.....	Ashland Baraboo	Marinette	Merrill	Menomonee		

We may then say that, whereas the general growth of population in the nation or in the world tends to raise the value of all lands in use, including the sites of cities, proportionately the size and growth of population in any *given* city can no more be looked upon as a cause of its land values than the number and size of its buildings. The causes of land values in any given city are found rather in the natural and social opportunities which its location affords.

Human Factors Influencing Land Values

The human factor appears to operate as a casual factor affecting urban land values in particular cities merely in so far as it is responsible for the development and safeguarding of the basic opportunities which a city may possess. But this may be done by comparatively few individuals, and many instances could be cited in which one or a few individuals have materially promoted or hindered the development of individual cities. Thus the numerical population of any city is not a primary *cause* of its land values, although it generally is a concomitant of them, and hence should be viewed as simply one of the secondary factors affecting land values in cities.

The question might properly be raised whether the quality rather than the quantity of the population might not help to explain urban land values. It is unquestionably true that to the extent that the *development of the possibilities* of any situation has a bearing upon land values, the quality of the population of the city as a whole is an important factor. One aspect of this has already been mentioned in connection with the influence of leaders upon the development, and resultant land values, of a community. Equally important are those characteristics of a population that determine its thriftiness, its industry, and its willingness to adopt new methods. Here the temperament of races stands out as a thing of foremost importance.

It is true that the ablest, economically speaking, are often the ones who through competition come into possession of the best situations. But this is certainly not always the case. It would never occur to a visitor of Salt Lake City that this now wealthy region was occupied by a people of inferior quality, although the land they developed would serve as a classic illustration of submarginal land. It can readily be seen that superior men may be able to develop lands which most men would consider worthless, and it is even possible that in so doing they may make greater profits than they could make by employing their energy, capacity, and capital on better land. The character or quality of population thus exerts a profound influence upon land values, not only because thriftiness causes a lower time preference and hence a lower rate of capitalization, but also because the degree of stability, energy, initiative such people possess determines in large measure the results which land is able to produce with any given outlay.

The outstanding fact discovered about changes in land values of Wisconsin cities was the marked lack of correlation between changes in land values and changes in population comparing one city with another. Regardless of how this fact is explained it clearly suggests the need for caution in acting upon the assumption that as population increases, land values will increase similarly.

DEPARTMENTS

The departments of the JOURNAL are edited specifically with regard to their interest to the readers who are especially concerned with the economic problems of land and public utilities. For the most part the material for the departments will be prepared by members of the staff of the Institute for Research in Land Economics and Public Utilities.

BOOK REVIEWS

This department contains critical reviews and brief notices of new books of interest to the readers of the JOURNAL.

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BOOK REVIEWS

Thompson, Carl D. PUBLIC OWNERSHIP. *New York: Thomas Y. Crowell Co., 1925. pp. xviii, 445. $3.*

While much has been written recently on the subject of public ownership, a great deal of it has been so highly colored by personal opinion that it cannot be considered reliable. Mr. Thompson, on the other hand, in his book endeavors to set forth the facts rather than to expound any theory on the subject. With this purpose in view, he proceeds to discuss the different examples of existing government ownership and operation of business.

The subject seems to divide itself naturally into three different classifications, instances of ownership and operation by (1) the national government, (2) the state government, and (3) the local government.

In the first class come the most common forms of public ownership. In the first chapter of his book, under the title "Familiar Forms of Public Ownership," Mr. Thompson discusses the operation of the government itself as a public ownership enterprise, the postal service, public schools, and public libraries. In the next chapter, "The Government in Business," he discusses (1) the United States reclamation service, (2) the government management of the public domain, (3) the maintenance of the Department of Agriculture, (4) the function of the Interstate Commerce Commission in regulating transportation, (5) the supervision of the public forests, (6) national parks and monuments, (7) the building of the Panama Canal, (8) government railways in Alaska, (9) the protection of public health, (10) the maintenance of social insurance, and (11) government establishment of the coast guard as a protection of life and property along the coast, and, finally, such government activity as printing and publishing, and the maintenance of the United States Weather Bureau.

These various forms of activity are well recognized as proper fields for government enterprise and therefore need little discussion. The value of these opening chapters and their evident purpose lies in the presentation of readily accepted forms of government ownership and an attempt to prove to the general reader that government ownership is not a new and startling phenomenon, but that the government has long been engaging in some forms of business enterprise.

The author next turns to a consideration of forms of public ownership which are not so universally held to be proper fields for government activity and concerning which much difference of opinion exists. In Chapter III he discusses the public ownership of steam railways, presenting, first, the extent of public ownership, and second, the advantages of public ownership (1) to the industry itself, (2) to the employee, and (3) to the public. This chapter closes with a discussion of the Plumb Plan as labor's solution of the railroad problem.

Nationalization of the telegraph, telephone, cables and radio, and the mines is presented in Chapters IV and V, respectively. In both of these discussions Mr. Thompson first gives examples of public enterprise in these fields or proposed programs of government operation and next points out wherein he believes that private ownership has fallen short and conditions

have been materially improved under public ownership.

When considering the problem of public banks and banking, Mr. Thompson quotes from Woodrow Wilson and Justice Brandeis to the effect that the most dangerous monopoly of this country is the money monopoly—the control by a relatively few banking and trust companies of the financial structure of the country. "If these men who are recognized authorities, great students and leaders in the public life of America, are right," he says, "then some form of public banks and banking would seem to be the only solution of our financial and industrial problems." He then speaks of the rise of cooperative banking and the "occasional and sporadic" efforts of municipalities and states in the direction of public banking, the United States Postal Savings Bank, and examples of public banks in foreign countries.

There are relatively few examples of public enterprise by state governments. In many instances the state is linked with the national or with the local governments in business enterprises. The author mentions some scattered instances of state ownership of railways, telephones, and public ports. He considers at some length three examples of state enterprise, namely, public elevators and mills, state printing plants, and state insurance.

The discussion next turns to the various forms of municipal enterprise—waterworks, street railways, gas plants, and electric light and power plants. In each instance examples of successful government ownership are first cited, and then attention is called to the advantages of public ownership and operation.

In Chapter XII, "Other Municipal Enterprises," Mr. Thompson discusses briefly forms of municipal enterprise which are not as large in scope and, therefore, have not claimed as much attention as the four forms of activity described in the chapters immediately preceding. Sewerage systems, police departments, municipal parks, municipal fuel yards, ice plants, street paving and repair plants, municipal ports, piers, and terminals, and several other activities of the average city are described.

The Ontario hydro-electric system has stood out as the most striking example of successful operation by the public of an electric light and power plant. Chapter XIII is devoted to a description of this enterprise. The history of the plant, a comparison of the results of public and private ownership, and future possibilities of extension of service are discussed. From this Mr. Thompson passes to the treatment of the possibilities of super-power development under public ownership.

In the final chapter of his book, Chapter XV, Mr. Thompson adopts the question and answer method, and by this means briefly reviews the whole subject and meets some of the stock criticisms.

The book is a very good summary of what has been done in the field of public ownership. The reviewer wishes, however, that Mr. Thompson had paid more attention to the common methods of ascertaining the efficiency of utility enterprises. Furthermore, it would seem desirable in presenting the facts to do more than simply chart the rates of a company before and after public acquisition; one wishes to know whether rates have been lowered at the expense of lower standards of service, depreciated properties, failure to make needed extensions of service, subsidies from the tax revenues of the political

unit. There is also the unsettled question whether the "spoils system" can be kept out of job-holding in a public enterprise, and whether a civil service system can be made to offer comparably effective inducements to efficient service. These are matters which bear directly upon the relative economy of public and private enterprise. Judging from the economic materials in the utility field which the reviewer has handled, there are some additional facts which deserve inclusion in a confessedly open-minded presentation. Thus, it would seem to the present reviewer that Mr. Thompson has not entirely succeeded in his endeavor to present an unbiased statement of the facts of public ownership. This is, however, a question which each reader must answer for himself.

MARION C. RICHTER

Fossum, Paul E. THE AGRARIAN MOVEMENT IN NORTH DAKOTA. *Johns Hopkins University Studies. Series XLIII, No.1. 180 pp.*

The author of this monograph holds that the present agrarian unrest is due to economic causes which have their origin in the development of a commercial system of farming, under conditions where large numbers of farmers are far removed from the bulk of the consumers of their products. *The Agrarian Movement in North Dakota* is treated in three parts, the final one being the "Non-partisan League." Each part is characterized by certain lines of endeavor, but the motivating factor in each case is a desire for a more satisfactory grain-marketing system.

The *first part* began at the time when the territory was admitted to statehood in 1889. The farmers, aroused by the injustices of private elevator marketing practices and the unreasonable attitude of the railroads, looked to the first legislature for laws that would alleviate what they regarded as an almost intolerable situation. Through two sessions, however, the opposition tricked and baffled the farmers in their attempt to enact marketing legislation which they regarded as necessary to solve their marketing problems. Then, through a fusion of political parties, the farmer group succeeded in getting control of the legislature and passed a number of laws; but one, providing for the establishment of a terminal grain elevator, either in Wisconsin or Minnesota, was so drawn that it never became operative. The attempt on the part of the farmers to establish independently a terminal elevator also failed.

As viewed by the author, one outstanding characteristic of this first plan of the Agrarian Movement in North Dakota was the lack of understanding of the marketing problem by the farmers and the faith they placed in laws to bring back real competitive marketing and better prices.

The *second part* of the Agrarian Movement in North Dakota was the cooperative or farmers' elevator movement. Whereas the chief effort in the first part had been to maintain competitive conditions locally, interest was now centered in attacking the terminal marketing problem through the establishment of farmers' country elevators and farmer-controlled commission companies and terminal marketing facilities. Discontent increased, first, because practically all products raised must be sold outside the state; second, the farmer was subject to diminishing returns due to decreasing yields per acre, increasing operating expense, and increasing land values; and finally, the farmers who had added to their landholdings and farm equipment found that

this had not relieved the situation. State and federal investigations centered the farmers' attention on the abuse in the grain trade and caused them to overlook even the service rendered by private middlemen. During the first part of this period the North Dakota Bankers' Association cooperated with the grain dealers and the Society of Equity in a movement to secure a state terminal elevator, and apparently even helped form the Equity Cooperative Exchange, a farmers' terminal grain-marketing organization. This Exchange first operated as a commission firm in Minneapolis, but later moved to St. Paul and erected a small terminal elevator. George S. Loftus, a capable organizer, was finally chosen manager for the Equity Cooperative Exchange. His methods brought on the ill will of the Elevator Managers' Association and the Minneapolis Chamber of Commerce. Minneapolis bankers finally refused credit to the Equity Cooperative Exchange. The author holds that Loftus, although ostensibly supporting a measure before the North Dakota legislature to establish a state terminal elevator, really opposed it, hoping thereby to gain support for his terminal grain-marketing organization. Whether the author is correct in his analysis of the stand taken by Mr. Loftus or not, the measure was defeated and many farmers were embittered. They felt that big business was their chief enemy in their attempt to get fair prices, and the ground was prepared for a much more striking movement than had yet taken place.

The *third part* embraces the organization and activities of the Non-partisan League, which, as Dr. Fossum states, was not a political party but an organization of farmers committed to a definite legislative program of state ownership of certain industries. The leader, A. C. Townley, appealed to the farmers on the basis of the low prices received for grain and the oppression of the farmer by middlemen and the monied interests. Prominent Socialists were invited to take part in the movement. They flocked to the state and hailed the movement as a harbinger of the *"new day."* In 1918 the League got complete control of the Republican Party within the state, normally the dominating party, and the legislature embarked upon its legislative program in the winter of 1918-1919. The author divides the legislation into four groups: industrial, ameliorative, propaganda, and punitive. Of the industrial undertakings—the State Mill and Elevator, the State Bank, the Home Building Association, and the State Hail Insurance—only the last named has been successful, in Dr. Fossum's opinion. There is no doubt in the mind of the reviewer that the State Hail Insurance has rendered a real service to the farmers of North Dakota.

The following quotations from this monograph reflect the author's point of view in his analysis of the Non-partisan League movement and its results: "To the Socialist it appeared as the dawn of a new day. To the opposition it seemed to be an attempt to undermine the system of private property. However, to the farmer it meant far more than the embodiment of a theory or the destruction of a system. It was to him an attempt to secure control of the marketing of his products. The diminishing returns of his broad acres had forced him to seek out new economies and he felt that the middlemen ought to be forced to forego a part of their profits."

"In its failure, however, the League seems to have accomplished its end. It has proved without a doubt that state

ownership, because of the great temptations it affords to favor political factions, could not exist when it must compete with privately owned and efficiently conducted organizations. This fact and the fact that the farmer had been led out of his narrow local surroundings and taught to look beyond his small sphere of activity to his terminal market for the solution of some of those problems, the solution of which he was led to believe would better his condition, are the great contributions of the Nonpartisan League to the Agrarian Movement."

A final chapter on general tendencies may not impress the reader so forcibly as the previous chapters giving an analysis of the Agrarian Movement in the past. The author states that the Nonpartisan League is destroyed, but the question arises, "Is it destroyed?" Although many of its activities have been unsuccessful, it is still the strongest political unit in North Dakota. It elected the last governor, the last two United States senators, and the last legislature was controlled by League members, with the exception of one vote in the Senate. The final paragraph creates some uncertainty as to the author's conception of the Agrarian Movement. He states that this movement, which came into existence through division of labor as applied to industry, is disappearing through the industrialization of agriculture. If the Agrarian Movement is a legislative movement in the interest of farmers, can it be said to be disappearing? If it is a farmers' cooperative marketing movement, is it waning? Is not the cooperative elevator movement, which the author apparently includes as a part of the Agrarian Movement in North Dakota, one aspect of the industrialization of agriculture carried on by the farmers themselves?

This monograph as a whole is a splendid contribution to our literature on the political and economic struggles of the farmer in North Dakota in his attempt to solve his marketing problem, and to improve his economic well-being.

It is interesting to note that when the Dakotas were being settled and the bonanza wheat farms were in the heyday of their existence, Marxian Socialists hailed this agricultural development as one proof of their theory that concentration of wealth was finally to break down our present order of society and ownership of property. Now the bonanza wheat farms have practically disappeared and in their place are scores of family-sized farms. Again a generation later, when the Non-partisan League embarked on its legislative program, Socialists hailed the so-called *"new day"* legislation as a real beginning of state socialism, but now, seven years later, Dr. Fossum declares that the League has proved that state ownership of industries competing with private industry cannot succeed.

ALVA H. BENTON

Conover, Milton. THE FEDERAL POWER COMMISSION: Service Monograph No. 17, Institute for Government Research. *Baltimore: The Johns Hopkins Press, 1923. pp. xi, 126. $1.*

This work is the seventeenth of a series of monographs analyzing the Federal Governmental agencies. The first half of the book is devoted to a discussion of the historical development of public control of water-power. The colonial governments, in the absence of legal precedents in European countries, were compelled to establish rules governing the use of streams used for power purposes, and after the adoption of the Constitution, the state governments expanded and enlarged the extent of

government control by the colonies. The various state acts from 1781 to 1919 controlling water-power development are briefly described.

In a similar manner, the development of national control is described. About two pages are devoted to a discussion of the growth of federal control previous to 1866. The major portion of this chapter deals with the period 1866 to 1920. The successive laws designed to regulate water-power are described in considerable detail. This is followed by a similar description of the development of water-power administration, jurisdiction, and authority in each of the three executive departments concerned, namely, the War Department, the Department of Agriculture, and the Interior Department.

The move for a federal water-power administrative agency began in 1906. At that time nearly one-third of the states were cooperating with the Federal Government in a survey of water resources. In 1908, President Roosevelt, in a message to Congress, urged action for federal control. This message marked the beginning of a movement on the part of legislators, publicists, and administrators for a federal power commission.

President Taft, in 1912, in vetoing a bill to authorize the building of a dam across the Coosa River in Alabama, took advantage of the opportunity to urge upon Congress the establishment of federal control along the lines suggested by his predecessor. The subject was actively discussed in Congress in the ensuing years, and both the legal and the economic aspects of water-power development were considered. From time to time pressure was brought to bear upon Congress by public groups, such as the National Conservation Congress in 1913 and the Conference of Governors in 1914. By 1916 the agitation had become nationwide, and the World War served to intensify the demand.

In 1917 the chief engineer of the Forest Service submitted a memorandum to the Secretary of Agriculture embodying principles which later were incorporated into the Act of 1920. These are the mile-posts leading up to the Act of 1920, which authorized the organization of the Federal Water-Power Commission on July 1, 1920.

The remaining chapters describe the activities and organization of the commission. The activities are grouped as follows: Conduct of investigations, disposal of legal and judicial questions, issuance of permits and licenses, cooperation with private and public agencies, accounting, publication of information. After a detailed description of the scope and purpose of these activities, Mr. Conover presents the organization of the commission through which the duties previously described are carried out.

The Appendix contains a brief description of the publications issued by the Commission, a list of federal laws relating to water-power development, and a copy of the Act of 1920 creating the Federal Water-Power Commission. It also contains an outline of the organization of the commission, classification of its activities, statistics of water-power resources, and bibliography.

This report does not pretend to give an appraisal of the Federal Water-Power Commission as an economic and social institution. It is designed to present the facts, historical and analytical, which must precede and may facilitate a judgment as to the place of this commission in our whole scheme of public regulation of private enterprise. The report is therefore valuable for its historical information and references.

WALTER H. VOSKUIL

Ackerman, J. Walter, *et al.* WATER WORKS PRACTICE. *Baltimore: Williams & Wilkins Company, 1925. pp. xx, 790. $5.*

This manual was prepared primarily for the three general groups making up the active membership of the American Water Works Association: (1) the members of water boards and commissions who shape the general policies of the works under their control; (2) the salaried officials who manage and superintend the works; and (3) the specialists who design, manage, or supervise those parts of the works which are of a highly technical character. It will, nevertheless, be found helpful to all interested in water supply.

The book deals very thoroughly with the water industry, and is so written that a student or an official can obtain some valuable information about this earliest public utility. Starting with a brief general history, it covers the methods of locating streams for municipal water supply, the protection of these streams, and the natural reservoirs or lakes by which they are supplied. The author also presents in a concise manner the bacteriological standards for drinking water, tests and reports made on it, methods of purification and their success and failure, piping, pumping station equipment, and service and standards.

The chapters on "Distribution" and "Financing and Management" bring out the economic point of view. In these chapters rates of water service, price trends, depreciation, and taxation of water plants on physical property, franchises, securities, and income are considered. These, of course, differ in various states. A brief description of the various methods of evaluating water works, as well as some definitions, gives the reader a general idea of the methods employed. Depreciation is covered in a similar way: quoting cases which explain various methods, such as those of the straight line and sinking fund. Charts and tables accompany the description.

Those who are interested in the financial requirements for providing betterments and extensions will find the financial explanations of some of the larger cities clearly presented and summarized. A concise table, entitled "Summary of Laws as to Allowable Bond Issues," is included in this chapter. The subjects, on the whole, are well discussed.

The book is full of practical information on water works practice and has the latest data available, including legislation, judicial decisions, and many statistical compilations. Since the water business, which is the oldest public utility, has had very little publicity in book form, this work fills a very important gap in our public utility literature. To the economist, however, some of the technical information could well be spared for more attention to the cost and income aspects of water utilities. Such data are generally lacking, which makes difficult an economic analysis of these utilities comparable with similar analyses of other utilities. Nevertheless, the manual is interesting and thorough in its technical aspects. It will no doubt be a leader of books on the water industry, and a good reference book for those interested in public utilities in general.

CARL M. HALLGREN

SUMMARIES OF RESEARCH

THE DIVIDEND RECORD OF PREFERRED STOCKS OF ELECTRIC UTILITIES

THE increasing importance of electric light and power company preferred stocks as a form of popular investment, and particularly as the instrument used to secure customer investment, suggests an inquiry into their dividend record.

A recent survey[1] of the record of electric light and power preferred stocks stated that out of 122 companies, each with gross earnings of $1,500,000 or more and each having issues of preferred stock outstanding, 107 never have passed a preferred dividend, while 15 have had undeclared preferred dividends but have now paid them either in stock or cash, or both.

In order to secure a more continuous record, particularly of the average rate paid on these securities, the dividend rate on each of these issues was ascertained for each year from the time of issue to the present, or year of redemption. The results of this analysis are presented in Table I and in Chart I. The capitalization of the companies used represents about 85% of the capitalization of the electric light and power industry. The method pursued was to record the rate paid each year (or the average for the year in case of changes) for each of the companies having preferred stock outstanding in that year and to determine the simple average rate of all such issues. Deferred dividends which were found in the case of 15 companies were distributed over the years to which they applied.

It will be noted that the curve showing the average rate paid on all issues rises rapidly after 1910. This is largely explained by the inclusion of an increasing number of new issues which generally were at high dividend rates.

[1] *The Record of Electric Light and Power Preferred Stocks*, a memorandum by Bonbright and Company.

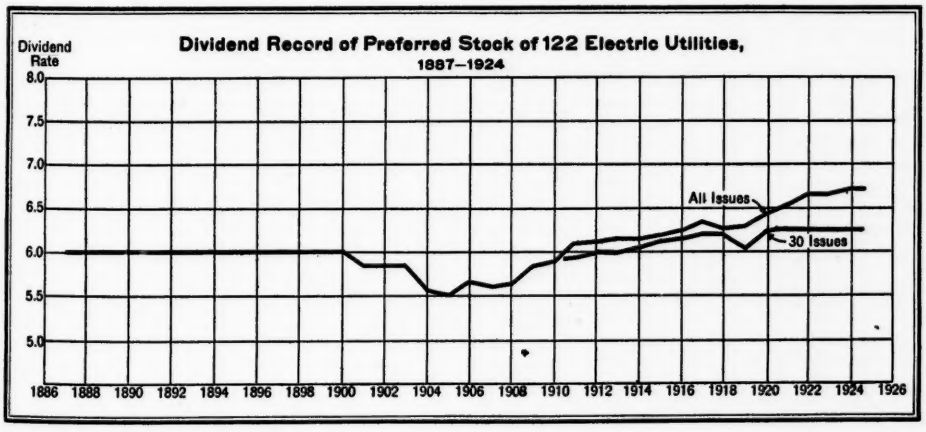

TABLE I. AVERAGE RATE OF DIVIDENDS PAID ON THE PREFERRED STOCK OF ELECTRIC LIGHT AND POWER COMPANIES*

Year	No. of Issues	Average Dividends Paid—%	Year	No. of Issues	Average Dividends Paid—%
1887	1	6.000	1906	17	5.647
1888	1	6.000	1907	21	5.600
1889	1	6.000	1908	21	5.619
1890	1	6.000	1909	26	5.840
1891	1	6.000	1910	34	5.882
1892	1	6.000	1911	37	6.083
1893	2	6.000	1912	48	6.086
1894	2	6.000	1913	57	6.163
1895	2	6.000	1914	64	6.166
1896	2	6.000	1915	69	6.204
1897	2	6.000	1916	74	6.250
1898	2	6.000	1917	79	6.345
1899	2	6.000	1918	84	6.294
1900	4	6.000	1919	89	6.327
1901	6	5.833	1920	106	6.462
1902	6	5.833	1921	119	6.542
1903	6	5.833	1922	132	6.647
1904	9	5.555	1923	145	6.672
1905	13	5.500	1924	150	6.737

* Including only companies with annual gross revenues in excess of $1,500,000.

TABLE II. AVERAGE DIVIDENDS PAID ON 30 ISSUES OF PREFERRED STOCK BY ELECTRIC POWER AND LIGHT COMPANIES IN THE UNITED STATES WHOSE ANNUAL GROSS REVENUE EXCEEDS $1,500,000

Year	Average Dividends Paid—%
1910	5.900
1911	5.933
1912	6.000
1913	6.000
1914	6.066
1915	6.166
1916	6.200
1917	6.233
1918	6.233
1919	6.033
1920	6.250
1921	6.283
1922	6.283
1923	6.283
1924	6.283

Reference to Table I will show that the number of issues included from year to year has increased markedly, rising from 1 in 1887 to 150 in 1924.[2] With changing interest levels the curve would tend to rise by virtue of this factor alone. In order to study the record of a homogeneous group, the issues in existence in 1910 and those which continued outstanding in 1924 were determined and their average rate calculated by years. These issues numbered 30, and their record is presented in Table II and in Chart I.

Very often the electric utility is combined with other utilities; and when these other services included the electric railway utility, the results were sometimes to the disadvantage of the standing of the security issues. Thus the sharp break in the average rate paid on the 30 issues in the year 1919 was due to the suspension of 6% non-cumulative dividends by one company conducting an electric railway, as well as a light and power, business.

DALE STEWART

[2] The number of companies reached a maximum of 122, the number of issues 150, due to the fact that many companies have issues of first preferred at different rates.

PUBLIC UTILITY FINANCING DURING FIRST QUARTER, 1926

AN analysis of public utility financing for the first quarter of 1926 shows that while the total volume is somewhat less than that of the first quarter of 1925, it still remains at a very high level. The total volume of public utility financing on record for the first three months of the current year was $493,330,362. Total corporate financing for that period

TABLE I. INDEX NUMBER OF VOLUME OF PUBLIC UTILITY FINANCING*
1919-1925

	1919	1920	1921	1922	1923	1924	1925	1926
By Months								
January	100	67	55	46	122	112	199	173
February	48	28	25	47	66	89	172	125
March	25	27	25	43	94	78	144	115
April	5	38	25	50	64	112	69	.....
May	15	38	35	150	66	233	103	.....
June	26	20	9	96	92	122	118	.....
July	41	25	115	44	21	104	90	.....
August	20	11	33	22	40	62	93	.....
September	54	44	34	147	34	77	110	.....
October	24	33	33	77	59	112	92	.....
November	8	21	119	43	161	69	102	.....
December	20	63	53	54	135	111	153	.....
By Quarters								
1st Quarter	100	71	61	80	164	162	299	240
2nd Quarter	27	56	41	172	129	271	168	.....
3rd Quarter	67	47	105	123	55	141	170	.....
4th Quarter	30	68	119	101	206	169	201	.....
By Years	100	107	145	212	246	330	373	.....

*Volume for January, 1919, First Quarter, 1919, and Year 1919 used as basis for computing index numbers for months, quarters, and years, respectively. Compiled from the records of the *Commercial and Financial Chronicle.*

amounted to $1,509,137,316, of which public utility financing was 32.7%.

Reference to Table I will show that only twice since January, 1919, has the quarterly volume of public utility financing exceeded that of the first quarter of 1926. The first quarter of 1925 has the greatest volume of any similar period, showing an index number of 299. The second quarter of 1924 comes next, with an index number of 271.

It is also to be noted that January, 1926, has an unusually large volume of public utility financing, $206,246,242. April, 1924, and January, 1925, are the only months with a greater total volume.

There was a marked increase in the number of foreign utility issues offered for sale in the United States in 1925. In that year foreign utility issues amounted to 8.4% of the total volume of security issues. In 1924 the volume of foreign utility issues was only one-half of 1% of the total. The high proportion of foreign issues to the whole was maintained during the first quarter of 1926. The total par value of issues of this group during January, February, and March of the current year was $41,000,000, 8.3% of the total volume of all public utility issues.

Financing in the first quarter of 1926 was at a slightly lower yield to the investor, thus continuing the downward trend which started in 1921. All debt obligations of all maturities sold at a price to yield 5.65 per dollar and 5.78 per issue. Corresponding figures for

TABLE II. WEIGHTED AND SIMPLE AVERAGE YIELD AT OFFERING PRICE OF NEW PUBLIC UTILITY SECURITY ISSUES

YEAR	ALL TYPES OF SECURITIES						BONDS AND NOTES	
	ALL MATURITIES		LONG TERM		SHORT TERM			
	Weighted Average Yield	Simple Average Yield	Weighted Average Yield	Simple Average Yield	Weighted Average Yield	Simple Average Yield	Weighted Average Yield	Simple Average Yield
1925	5.58	5.81	5.66	5.83	5.55	5.86	5.56	5.78
1st Quarter	5.46	5.78	5.65	5.81	5.32	5.77	5.48	5.79
2nd Quarter	5.72	5.87	5.74	5.86	5.58	5.94	5.65	5.82
3rd Quarter	5.53	5.77	5.50	5.77	5.68	5.73	5.45	5.76
4th Quarter	5.77	5.82	5.77	5.80	5.76	6.02	5.65	5.77
1926								
1st Quarter	5.65	5.78	5.63	5.75	6.26	6.02	5.53	5.71

the last quarter of 1925 were 5.77 and 5.82, a drop of .12 on the yield per dollar and of .04 on the yield per issue. The long-term securities show a yield of 5.63 on the dollar and 5.75 on the issue, as against 5.77 and 5.80 in the fourth quarter of 1925. The yield per dollar on all short-term security issues for the first quarter is somewhat higher than that on short-term securities during the last quarter of 1925 and higher than that on any type of security for the first quarter of 1926. This apparent inconsistency is explained by the fact that a gas company offered two issues of short-term bonds, with a total par value of more than $6,000,000, at an unusually high rate of 7%. *Bonds and notes only* were offered to the public at a rate to yield 5.53 per dollar and 5.71 per issue. Comparable figures for the fourth quarter of 1925 were 5.67 and 5.77. One large issue of bonds was offered at the low rate of 4.95. The rates on the various issues offered range from 4.95% to 7%. However, 71% of the total number of issues of interest-bearing obligations, representing 70% of the total par value of such obligations, were offered to yield between 5% and 6%.

MARION C. RICHTER

COMMENTS ON LEGISLATION AND COURT DECISIONS

AGRICULTURAL CONTRACTION *VERSUS* EXPANSION AS A NATIONAL POLICY

THE history of the federal land policies of the United States shows three important stages. The question is here raised if a fourth stage should not be inaugurated at this time.

In the first stage, that inaugurated by Alexander Hamilton, the disposition of the public domain was looked upon as a problem in national finance. The object was to get as much money as possible out of the land for the Federal Treasury. The second stage reached its perfection under the Homestead Act and looked first of all to putting the land into the hands of actual settlers as fast as possible. Under this policy land settlement went forward at tremendous speed. Agricultural production was increased as never before in the history of the world. Large supplies of cheap food and raw material flooded the markets of the world. All older agricultural regions suffered great losses in the value of their property, and the depression extended finally into the newly occupied areas of Kansas and Nebraska. As the supply of good land available for homesteading was exhausted and the prospect for better prices of farm products looked hopeful, the third stage in our land policy was ushered in, that of using federal funds to develop irrigation projects in order that the expansion of American agriculture might continue.

During the World War agricultural production was stimulated by means of patriotic appeals which were effective in adding 45,000,000 acres of land, or 15%, to our cropped area. Much of this had been pasture land in farms prior to the war, but in the dry farming area the return to pasture is almost impossible. This final spurt in agricultural expansion due to war appeals has put vast areas of land under the plow which should be in pasture or in forests.

There is no one who does not recognize that the present agricultural depression is due to a lack of balance between agriculture and other industries. Agricultural readjustment is the need of the hour. There is too much land in agriculture and there are too many people in agriculture, on the basis of the present commercial policies of the nation. The suggestions brought forward in this note relate to a change in our land policies which would tend to bring about a better balance between agriculture and other industries.

The government has not hesitated to enter the business of expanding the farming area in the past. Now the need is for contracting the area. No less an economist and statesman than the present Secretary of Commerce has recommended that farmers reduce their production to the needs of the home market. To do this means to drop out of cultivation vast areas of marginal and submarginal land on which farmers are located and in which they have invested their all. With normal price levels the majority of these farmers

would be doing well, but on the present basis of sales and purchases they are falling behind financially year by year. Many of the farmers on irrigation projects are bankrupt. A government commission has taken up the question of the obligation of these farmers to the government with the view of adjusting their debts on the basis of ability to pay. Should not the government look also to other submarginal areas?

It has been suggested by Professor Richard T. Ely that the government enter upon a fourth stage in its national land policy and organize a system for removing submarginal land from agricultural use. Much of the land in question should be reforested; other vast areas that were broken up for wheat during the war will require a long period to revert to grazing lands. A government commission, authorized to classify the submarginal lands and devise means of putting them to their proper use, would render an important service.

If certain lands are to be withdrawn, the commission would be under the necessity at the same time of finding other locations and occupations for the people displaced from the land that is taken out of agricultural use. An excess of farmers, whether they be on submarginal lands or on better lands, only aggravates the maladjustment between agriculture and other industries. In order to bring about a balance, it is essential to find ways of taking care of the displacement of labor as well as the displacement of land.

Vast numbers of people have left the farm since 1920. In 1922, 2,000,000 men, women, and children left farms for cities, towns, and villages. In 1924, 2,075,000 left. But the back movement is large and increasing. It numbered 880,000 in 1922, and 1,396,000 in 1924. The figures for 1924 indicate that this "back wash" carries a large percentage of those who had tried without success to enter city occupations.

If we are to have a right balance between agriculture and other industries, there is need not only of a means of withdrawing submarginal lands from agricultural use but also of facilitating the movement of the surplus population from country to city. While the latter need is particularly great at the present moment, the need is permanent for the reason that the more rapid birth-rate in the country than in the city makes necessary a constant movement of population citywards. Whenever this drainage of excess rural population fails to be adequate, agriculture will be depressed.

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State of Illinois, County of Cook, ss.

Before me, a notary public in and for the State and County aforesaid, personally appeared Thos. S. Rockwell, who, having been duly sworn according to law, deposes and says that he is the Business Manager of *THE JOURNAL OF LAND AND PUBLIC UTILITY ECONOMICS*, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

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2. That the owners are: [Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.] The Institute for Research in Land Economics and and Public Utilities, Northwestern University, Evanston, Ill.; Albert Shaw, Pres., Board of Trustees, New York City; Henry C. Taylor, Secy., Board of Trustees, Northwestern University, Evanston, Ill.

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